ABSTRACT OF

The Harveian Oration.

Delivered at the Royal College of Physicians, Oct. 18th, 1889.

BY J. E. POLLOCK, M.D., F.R.C.P.

AFTER a few preliminary remarks, the orator entered upon the main subject of his address as follows:—

Working, as it were, in the dark, with but few ascertained facts to fall back on, and theories which were only embarrassing, to be got rid of by ceaseless experiment, by hourly study of natural phenomena and an independent reasoning which took nothing for granted which he could not prove, Harvey left us an inheritance which it is well indeed that we should from time to time examine. We who live in the light of modern discovery are apt to forget the beginnings of our knowledge—the labour by which every step in advance has been gained, the progressive reasoning, the errors which retarded, the opposition which opposed—and to use, almost without reflecting on its past history, the great heritage which has descended to us. ..... Harvey was modest and reverential as the true student who sat at the feet of Nature and learned her mode; not self-seeking nor vainglorious; not triumphant in the overthrow of adversaries. He had fought his fight; he had established his facts, which were accepted by his fellows in this country; he had declined the highest honour which the College can bestow, and committed its presidency to other hands; and now in his age he reposed on his laurels, confident in the truth, and therefore in the eternity, of his views.

On sitting down to record his last wishes he left us these directions: Remember your benefactors; search out nature by experiment. ..... By benefactors I think Harvey meant workers as well as donors; and I would recall to your attention and that of our visitors to-day that our Fellows are all men selected because they have contributed something to our knowledge. There are no drones among them; but, while the Council in its wise discretion selects only a limited number from among its members to add to its list of Fellows, they are aware that among the juniors and others are found earnest workers, busied in advancing knowledge, who will doubtless take their place in the foremost ranks of our pioneers. .....

Let us shortly consider the state of Europe at the period when Harvey was at work. He was teaching in London in 1619, and published his discovery in 1628. The chief feature of the sixteenth and seventeenth centuries was the struggle between Reformers and Catholics, but in the latter part of the sixteenth century the Reformation was already an established fact, and a difference in religious belief was subservient everywhere to political aims. Politically the contest for supremacy was between Spain and France and England, the latter joining hands against the former. Spain was the stronghold of Romanism; but her civilisation was not equal to that of Italy. In Germany, Switzerland, the Netherlands, and England, the Reformation was well rooted, and the Huguenots were powerful in France, while Queen Elizabeth and Henry IV. of Navarre no doubt had this cause at heart. Then followed the time of England's weakness under the vacillating Stuarts, while in France Richelieu wielded the greatest power of the time. In 1620 the most devastating war which Europe has ever witnessed broke out, and for thirty years the various petty States of Germany, played against each other by the greater Powers of Europe, were desolating their country under the name of religion. In 1648 this was concluded by the Peace of Westphalia. While those great events were agitating men's minds, it was doubtless hard for learning to get a hearing. In Italy during the last forty years of the sixteenth century there was uninterrupted peace, and a remarkable advance of literature and academic teaching, in spite of the formation of an Index Expurgatorius by Paul IV. in 1558, the influence of which extended even to England. The great Italian universities of Bologna, Padua, Pisa, and Pavia lost none of their lustre in the sixteenth century, and medicine and mathematics were especially studied, and public libraries were much increased. This feature of the revival of literature was observable in various countries. ..... There can be no doubt that the Reformation was a means not only of shaking off the spiritual tyranny of Rome and opening men's minds to its corruptions, but there was a general awakening of individual judgment and a necessary rebellion against dogmatism in religion or science. Dogmatism is the tyranny of power over mind, of system over independent judgment, and all teaching had hitherto been dogmatic. Men inherited a reverence for opinion sanctified by ancient authority, and had come to believe that time can sanctify error—nay, inquiry was forbidden as a desecration, and thus the finest intellects were lulled to sleep, or terrified by the prospect of certain defeat if innovations were proposed. But great intellects and great discoveries were brought to light in that age. Galileo and Kepler laid the foundation of astronomy—the former being also the first to make a microscope and thermometer. Then we had Bacon in England, who defined the inductive method, although Macaulay has remarked that it has been used in all times and countries; while literature was represented in Spain by Cervantes, and in England by our Shakespeare, Ben Jonson, and Milton. A remarkable investigator of nature—the monk Sarpi, who was imprisoned for his liberal views of religion, and is well known as the historian of the Council of Trent—must here be mentioned. It has been claimed for him that he discovered the circulation before Harvey. He was, like him, a student at Padua under Fabricius; but I cannot, after a study of the most ancient record in Italian, satisfy myself that he knew the motor power of the heart, although he was aware of the valves in the veins, and believed in a circular movement of the blood.

Let us pause for a moment to reflect on the universal movement of science, when many observers are engaged in the simultaneous study of natural phenomena, and on the synchronous nature of discoveries. Davey had indicated the anæsthetic results of inhaling certain gases, but it remained for Simpson in Scotland to discover chloroform, and at the same moment it was claimed for the United States. Is not the latest planet discovered simultaneously in several parts of the world? and who shall say what is the next step in advance? The next step! We are even now on its edge; the sight may not reach, nor even the most vivid imagination compass it, but it is there—imminent though unseen, impending though unsuspected. The movement of science, like that of the glaciers, is always there, and its progress demonstrable; but we do not see it till some grand but unexpected result is announced ..... It is no derogation either from the homage which we to-day render to Harvey's memory to say that his final discovery did not emanate from one mind, but was indeed the culmination of knowledge which, however slow in its advance and interrupted in its progress, was evidently always striving towards a perfect theory of the observed phenomena of nature. But it is necessary to our highest estimation of his work to recognise that the errors which he had to overcome had been stamped with the *imprimatur* of dominant minds, and that from the days of Hippocrates to Galen, and from Galen to Fabricius, who was the master and teacher of Harvey, the greatest philosophers of their day had formulated errors to which they gave the authority of the best teachers of their time..... The structural arrangement of the heart and vessels was known both by Harvey and his predecessors. The two sets of chambers and their alternate contraction had been observed with care, the valves which separate them, and the vicinity of the lungs, each provided with a much larger vessel than was required for their nutrition. The arrival of a current of blood at one side of the heart, and the means of its exit at the other, were recognised, yet how the circuit was completed remained a problem. The alternate contraction of the auricles and ventricles was witnessed by Harvey, but Galen, Aretæus, and the whole Alexandrian school saw it in their vivisections, as did Silvanus in the early part of the sixteenth century, and many others to the time of Servetus, who immediately preceded Harvey, and many of these teachers had opened the living bodies of animals and seen the cardiac movements. Further, we are now aware, and Harvey came to know, that the great veins did not start from the liver, although returning the used blood from that organ. The mode by which the different arteries terminate and the whole venous system of return currents begins was not known to Harvey with distinctness, for I cannot find it in any of his statements. The vessels which we now call *capillaries*, and

which intervene between the terminal arteries and the originating veins, were not demonstrated till some thirty years later, when Malpighi, aided by microscopic power, revealed their existence. That the blood did pass, and that the onward current through the arteries filled the veins was known to him without doubt, for without this his "circle" on which the blood moved was not complete; but of the capillaries themselves we have no description.

[Having mentioned the erroneous teaching on these points which prevailed up to Harvey's time, the orator proceeded.]

If this was the teaching which Harvey received at Padua, we can conceive the difficulty of the task that he accomplished, for how many erroneous theories had to be destroyed before the truth was recognised. It is the necessary destruction of received opinions which stifles at the birth the uprising of genius. ..... Harvey was no discoverer by a sudden power of insight; the light did not break upon him as upon Paul, by noonday; there was a certain order of events which preceded his own convictions. He was a worker by inference from facts—what we now call *induction*.

The observations of natural phenomena to which I have called your attention were not all erroneous. Silvius, about the end of the fifteenth century, had inspected the arteries and noticed the valves in the veins. Vesalius was aware of the way in which the valves of the heart and great vessels opened and shut, and he pointed out that the septum ventriculorum was absolutely impermeable. Servetus argued that the pulmonary artery was too large for the nutrition of the lung, and that therefore it had another office. He also noticed that in the fœtus no blood passed into the lungs, and that in the adult the pulmonary blood was crimson. In fact, he may be said to have discovered the pulmonary or lesser circulation. He had his difficulties about the capillaries, but so had Harvey; and although he spoke of a backward and forward motion of the blood, it appears to me from a study of his statement that he knew that the arterial system terminated in the venous. ..... If we were asked, after a careful study of Harvey's treatises and methods, which seemed to be the starting-point of his convictions, we should say that before vital phenomena were weighed and examined the structure of the heart and vessels furnished his first awakenings to the truth. "I see this mechanism repeated again and again in all individuals. I see a similar but single machine of like kind in certain lower animals. I remark that certain doors or valves open only in one direction. I notice in life a contractile motion alternating with another as regularly as the pendulum vibrates from side to side; and I argue that this organ so provided with motor power, and involuntary perpetual action, and guarded mechanism, is a propelling centre of motion, and is, indeed, the mechanical recipient of one current and the origin and outgiver of another." I think this was his line of thought, and that the mechanical aptitude of the heart first struck him; and that the vital phenomena dependent on it came as a secondary revelation. Of these last, indeed, he knew but little. The vast results which arose out of his discovery of the circulation were hidden from his view; but he laid a foundation of facts on which our knowledge of the functions of the whole body absolutely depends.

We must here pause to notice how impossible would have been his task if he had not had recourse to numerous observations of the living body. There were few animals which he did not examine by vivisection, and it is only the truth to assert that without such method he could not have attained to certainty, nor could we have reaped the important fruits of his discovery. Our latest, and perhaps our greatest, pathological achievements would not have been attained without vivisection, of which Harvey was the greatest exemplar, if he were not its originator.....It is to Harvey's fine uncompromising method that we owe much of our modern science. We are to be close and accurate observers; we are to study nature in all her phases; we are to investigate structure, in health and disease; we are to note phenomena of every vital action; with unbiased judgment we are to accept only such facts as are proved by repeated observations; and we are not to permit any theory of even the greatest master to influence our appreciation of the actual. This is high work, difficult work—work which must always be slow, because the phenomena of nature are not apparent on the surface, and because our highest and most cultivated powers do not yet approach the grand simplicity of her method; but it was Harvey's work, and it is the mode which he commends to us his successors. He estimated and knew well the mental effort which it had cost to throw aside the theories and teachings which obscured his way, and the labour which he had to devote to his investigation. Yet he said, and said truly, "This is the way—the only way—to the secrets of nature!" It is known that this announced method, which has descended to us through two hundred years, has acquired strength as it grew older. And while I commend it to you as the humble mouthpiece for the day of the great deceased master, I must say a word as to possible dangers which attend on its absolute adoption. It is applicable to science, and without it there can be no certainty. That which the chemist can analyse, which the microscopist can see, which the anatomist can demonstrate, is true—nay, it is the only truth of its kind. But there is that which cannot be so demonstrated yet may be highest truth; for the spiritual cannot be weighed in a balance, nor can we "by searching find out God."

There is not much to a student of the life of Harvey to indicate his religious belief, but we can state with certainty that after a careful study of the beautiful mechanism of the human body, he arose persuaded of the existence of a creative power. "I perceive," he says, "in the mysteries of nature a kind of image in relief of the omnipotent Creator Himself." We know also that he was humble and reverential, and such an attitude of mind it is which opens the heart and intellect to the reception of the highest truth. It would be mean to imagine that all his work would appear done when he had found the secret of a part of the living machine. We know that he further spent many years—many more years than he had devoted to the problem of the circulation—in investigating the secrets of generation. Here, indeed, he was turned back by an impenetrable problem, as we are. But what hope for the future of science do we not find in his final exhortation to us his successors to search out the secrets of nature by experiment. He had found out one; but he knew how many lay beyond it. To him there was no finality in his discovery; he knew its value, but it was not all. There was much more to do.

We have considered the nature of Harvey's discovery, and the methods which he used; but it is to be remarked that if great observers had not arisen after him, both medicine and surgery must have remained stationary. The machinery for carriage of the blood and the power by which it is conveyed having been demonstrated, it was natural to ask what was the nature of the fluid and to what purpose, and whither was it carried. That lesser circulation by means of which venous was converted into arterial blood by contact of air in the lungs was in evidence; but till the chemical discoveries of Lavoisier and Priestley long after, the uses of the lung circulation remained an unsolved problem. We can scarcely hesitate to affirm that the discovery of oxygen had more influence on physiological science than any other chemical fact whatever. The composition of the blood, the nature of its oxygen-carrying corpuscles, its mode of nutrition of the tissues, its carrying power—alone a wonderful thing to contemplate—by which is conveyed to each secreting organ that which is necessary for its purpose; the order in which each "station," so to speak, is visited by the outgoing current, and the refuse called for at a later period of its circuit; the method by which the temperature of the blood and of the tissues is sustained; the changes which are constantly occurring in its composition; its separate vitality resisting certain agents and decompositions; its resistance to elevated temperatures, and many other peculiarities known to the physiologist, and the subject of the study of many observers at this present day—these are only a part of the view opened to the student of nature by Harvey's discovery.

I desire also to direct your attention for a few moments to certain mechanical results of the same. Regarding the circulation and the structure of heart and vessels as a whole, it will be noticed that the discovery is that of mechanism and a power adapted to work it. As we have just seen, the vital results of blood circulation were as little known as its chemical composition; nor, indeed, could they have been known owing to the deficiency of other knowledge.

[Dr. Pollock then cited, as examples of diseased actions which a correct knowledge of the mechanism of the circulation was capable of explaining, obstruction in the mitral valve, aortic regurgitation, failure of the heart's power due to degeneration of the muscular fibres, the phenomena resulting from embolism, and the various kinds of aneurysm.]

The enumeration of the results to medical science which

have been gained by our knowledge of the lesser or pulmonary circulation would in itself occupy the time of many lectures, and such details would be unfitted to our present occasion. But I may be permitted to point out a few of the more obvious. All the phenomena of respiration, oxygenation of the blood, the sources of animal heat, and every disease affecting the pulmonary structures, would be unintelligible were we ignorant of the nature and results of the contact of air with the blood in the lungs. The discoveries of Laennec and those who have developed his system of auscultation in this country, by which every structural alteration has been rendered evident to the senses; the advances made by Stokes, Corrigan, by Latham and Williams, would have been impossible, and accuracy of diagnosis, which has now attained to such great precision, could not have been effected. ..... In close connexion with these observations is the use of anæsthetic inhalations, one of the greatest of discoveries, the crown of modern surgery, without which much that is curative would be impossible of attainment, and which as a preventer of pain must rank as among the most substantial triumphs of our art. Among the latest and most important additions to modern science which would have been impossible without a knowledge of the circulation must be enumerated the discovery of minute microscopical organisms in almost all diseases of the zymotic class, and in tuberculous and other pathological products. It will be well, however, not to build up too hasty theories of disease on even such facts. There is a palpable danger of results being mistaken for causes. The invariability of certain morbid products being found is no doubt a proof of the unchangeableness of the diseased process, but it would be surpassing the limits of the Harveian method of exploration by experiment if we were to assume that in all cases these, and these alone, were the causes. The decay of almost every form of organic life ends in a parasite or lower grade, and it may yet be found that our assumed causes were only results. Certainly in regarding the germ theory of disease we cannot multiply observation and experiment too much, but in theorising as to causes we must also account for heredity, the absence of personal communication of disease between individuals closely exposed, and a number of other facts, such as the influence of age and temperament.

Among the great fruits of modern pathology must be reckoned the discoveries of Koch and Pasteur, and the wonderful prophylactic effects of inoculation by a weakened virus. Already many lives have been saved by this method, and its future is most promising. Now, Sir, it has been asked, and it is a question which we should put to ourselves, what effect have all our discoveries and improvements in medical science had on the general health of the country? Are we a healthier nation? Is there a diminution of disease? And do fewer die? Above all, do more individuals survive through the working and useful periods of life, for if so, this is a national gain of power.

[The orator here quoted elaborate statistics from the Registrar-General's returns to show that a marked decline has occurred in the national death-rate in recent years, and that by far the largest proportions of the years added to human life in England, both of male and female, are lived at those ages when the value of life to the community is greatest. It thus becomes possible, he said, to realise how vast will be the national effects of this reduction of the death-rate, which has added an average of two years to the life of each male born in England and Wales, and nearly three years and a half to the lifetime of every female born. These results the orator thought it was but fair to attribute to increased medical knowledge and to the greater recognition of natural laws of health and disease which have been taught by our teaching and enforced with such authority as we possess. After referring to the greatly lessened mortality from phthisis since the passing of the Public Health Acts, and the increase in mortality at the more mature and advanced periods of life, which he suggested might be due to the cares and worries of a higher civilisation, Dr. Pollock concluded as follows:]

I need not say to such an audience as this that *work*—the due exercise of every function given to us—kills no man, and shortens no life. The causes are to be found in what is called our extended civilisation. We are no longer traders to one country, nor for one or two commodities—but the telegraph has introduced us into a widened sphere; and our merchants have investments in every climate, and enter on risks of a kind so varied, that the knowledge of no one man is sufficient to grasp it. Hence there are the anxieties of extended speculation, and a necessary want of the perfect understanding of each. The knowledge of one kind of trade was formerly "power," and led to prosperity; now we are playing games with all the world. Those who are present know well what part of the organism it is which generally fails under such pressure. The public say it is *brain*, but we know that it is *heart*—the motor power which Harvey studied—although, perhaps, he did not foresee to what pressure a modern civilisation and struggle would subject it.

I have spoken but of the trading class and the speculative class, but all classes of society should learn to counteract in themselves the depressing agents of excessive worry, and to beware of the race which, once entered on, may exceed the best of our powers and ruin the machine.

Presidential Address
ON
OPHTHALMOLOGY AND GENERAL MEDICINE.

Delivered before the Ophthalmological Society of the United Kingdom.

BY J. HUGHLINGS JACKSON, M.D., F.R.S., &c.,
PHYSICIAN TO THE LONDON HOSPITAL, AND THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

GENTLEMEN,—No professional honour can be more pleasant to me than is the Presidency of the Ophthalmological Society. I thank you for it with all the greater heartiness because I am already very much in your debt for your selection of me to deliver the Bowman lecture of 1885,[1] and to open a discussion on that most important neurologico-ophthalmological subject, optic neuritis.[2] There is no department of medicine which has greater attractions for me than ophthalmology. It was the first subject I specially worked at after my student life, and I still think what I said when giving the annual address, 1877,[3] before the Medical Society, that it was "the luckiest thing in my medical life that I began the scientific study of my profession at an ophthalmic hospital." Many years ago I had the good fortune to be Mr. Hutchinson's clinical assistant at Moorfields. I suppose it is to his example and teaching that I owe the beginning of the little scientific development I may have. At an ophthalmic hospital one has the opportunity of being well disciplined in exact observation. When a physician sees how carefully and precisely ophthalmic surgeons investigate the simplest case of ocular paralysis, he is getting a lesson in exactness, and will be less likely in his own department of practice to deal in such generalities as that a patient's seizure "had all the characters of an ordinary epileptic fit," and more likely to take pains to describe the convulsion, the place of onset, the march and the range of the spasm. I suppose I must have felt myself under the kind of discipline mentioned when I wrote about twenty-three years ago:[4] "Until physicians work at the muscular disorders of various convulsive seizures as carefully as ophthalmic surgeons do at paralysis of the ocular muscles, our knowledge of convulsions will not advance in an orderly way." One meaning of science is exactness, or, as Dr. Buzzard put it in suggesting a name for a celebrated painting, "science is measurement." The ophthalmic surgeon measures the swelling of the discs in optic neuritis, the degree of error of refraction in hypermetropia, astigmatism, &c., and makes exact charts of the field of vision.

Although I do not congratulate you on your present choice, I think it a good thing that the president of this Society should sometimes be a physician. It will encourage physicians, especially young physicians, to work earnestly at the ophthalmological aspect of cases of patients under their care. By doing so they may repay part of the

[1] Trans. Ophth. Soc., vol. vi. [2] Op. cit., vol. i.
[3] Ophthalmology in its Relation to General Medicine. Journal, May 12th, 1877, et seq.
[4] Roy. Lond. Ophth. Hosp. Rep., vol. v., Part 4, p. 268.

great debt to ophthalmology which general medicine, and especially neurology, is under. Part of this debt has been paid by Charcot, Westphal, Weir Mitchell, Gowers, Clifford Allbutt, Ferrier, Seguin, Stephen Mackenzie, Bristowe, Wilks, Sharkey, Edmunds, Herbert Habershon, Samuel West, James Anderson, and many other physicians. I would particularly mention Gowers's magnificent work "Medical Ophthalmoscopy," a work esteemed by neurologists throughout the world. The recent researches of Beevor and Horsley on localisation of ocular movements in a particular region of the cerebral cortex of monkeys is an important contribution to ophthalmology as well as to general medicine and surgery.

Since six cranial nerves and the sympathetic nerve supply the eyeball and its apparatus, it is evident that, without a good knowledge of eye diseases, the thorough investigation of very many morbid affections of the nervous system is not to be methodically carried out. It is easy to show that this statement is by no means a mere truism. Unless the physician uses the ophthalmoscope by routine, he will often enough overlook the best evidence—and I am convinced in some cases the only decisive evidence—of gross organic disease of the brain there is to be had; and if, as is most often the case in a physician's practice, sight be good, he will not surmise that there is anything wrong with his patient's optic nerves, and will very likely be incredulous when someone who has looked at them tells him that there is swelling of the discs. It is not very many years since the ophthalmoscope was rarely used except by ophthalmic surgeons. Dr. John W. Ogle was the first physician in this country who used this instrument in the investigation of medical cases. I think it very unlikely that there is to-day a single patient in the National Hospital for the Epileptic and Paralysed whose eyes have not been examined by this instrument.

I was very much struck by the frequency with which Dr. Macewen of Glasgow mentioned optic neuritis in his paper, "The Diagnosis, with especial reference to Localisation, of Intracranial Lesion the Result of Aural Disease," read at the Leeds meeting of the British Medical Association last August. This paper is a most valuable contribution to ophthalmology, otology, and surgery. I urge young physicians to study eye diseases at an ophthalmic hospital or at an ophthalmic department of a general hospital; this nowadays needs no urging on physicians especially interested in neurology. A superficial knowledge will not suffice. Without special knowledge of ophthalmology a medical man may overlook paralysis of a superior oblique muscle altogether—may not know that there is any eye trouble at all; if so, he will misinterpret the vertigo for which his patient consults him. The physician's ophthalmological knowledge should be wide. A neurologist who thought only of those ocular symptoms which pertain to the nerves of the eye and their centres would be thinking too narrowly for practical purposes. Unless more widely trained in ophthalmology, he would overlook hypermetropia as a cause of headache and other nervous symptoms, and might thus treat by drugs a condition only needing spectacles for its cure. Again, the physician may, if he does use the ophthalmoscope, misinterpret what he sees if he does not know the morbid results of strain of hypermetropic eyes on the optic discs; he may erroneously consider swelling of the discs due to hypermetropia as a neuritis signifying serious brain disease, and treat the patient on that hypothesis. I infer that there is some excuse for this mistake when made by a physician, and I confess that I have made it, as I have known more than one highly accomplished ophthalmic surgeon to be, for a time at least, in doubt in such a case.

I hope I shall be pardoned for making one more quotation from the address delivered before the Medical Society; I repeat emphatically that "without a good knowledge of ophthalmology a methodical investigation of diseases of the nervous system is not merely difficult, but impossible."[5] Indeed, no physician will, I submit, doubt this who reads Mr. Swanzy's Bowman lecture, printed in our forthcoming volume of Transactions, a most able and very valuable contribution to both neurology and ophthalmology. I speak again of optic neuritis with gross organic brain disease. I suggest that cases of uniocular neuritis with tumour of one cerebral hemisphere (I have seen only three cases with necropsies) are the cases which, after microscopical examination of the parts concerned, will throw most light on the process by which optic neuritis results from disease of various parts of the encephalon. These cases are most likely to come under the care of physicians. The discovery of this process will be a great gain, not only to ophthalmology, but to neurology also. For, presumably, the process by which the pathological condition for some other symptoms, occurring in cases of gross organic brain disease, is produced is similar. At present there are only hypotheses as to this process. I find that I am sometimes quoted as having concluded that optic neuritis results by vaso-motor action, whereas I have only said, what I still think, that that hypothesis seems to me to be the most plausible of the three hypotheses I spoke of.[6] I would remark that an adequate hypothesis has to explain not the neuritis only, but some other pathological conditions, also produced by intracranial tumours. We may put for answer the more general question, How does a tumour, say of the cerebral hemisphere, produce symptoms not explainable by its destructive action? It is well known that some patients, subjects of optic neuritis, and who for most of their time see well, have frequent temporary losses of sight. It is very remarkable to observe a patient stagger into one's room quite blind and then to find him next minute seeing quite well, although with double optic neuritis. Dr. Samuel West has recorded in our Transactions, vol. iii., p. 136, a valuable case of the kind. So striking and so very definite a symptom demands explanation as much as do epileptiform seizures which often result from the same tumour of the mid-cortex which produces double optic neuritis. Neither of these paroxysmal symptoms can be put down to the destructive action of the tumour. I submit that they depend on diametrically opposite changes; that there is exalted instability of cortical grey matter—a condition induced by the tumour, probably by a local encephalitis, a condition permitting occasional sudden excessive nervous discharges. An acceptable hypothesis has to account for these two symptoms, as well as for optic neuritis. It has still more to account for.

There are other symptoms sometimes occurring along with optic neuritis from intracranial tumour which require explanation; and this I hope physicians will endeavour to give. Dr. Buzzard[7] made the following remarks: "Was it possible.....that the vomiting and the slowing of the pulse might represent an affection of the pneumogastric brought about by the same cause as that which produced optic neuritis, and that the sudden or rapid death which Dr. Hughlings Jackson had mentioned as one of the possible contingencies of optic neuritis from intracranial disease might also be explained by a more severe influence exerted upon the same nerve?" It is very remarkable that many patients with optic neuritis die suddenly or rapidly, and when seemingly in fair general health, sometimes at work, certainly most unexpectedly. I have often urged this on the attention of physicians. In some cases of cerebral tumour the patient may be acutely ill; he may have an illness very like tubercular meningitis in many of its symptoms; there may be slow and unrhythmical pulse and irregular respiration, there are retracted abdomen, constipation, and vomiting. I suppose that when a patient who has post-neuritic atrophy tells us that his sight failed after "bilious" or "gastric" fever, he has had such an acute illness. Dealing with certain cases of optic neuritis in children, Hutchinson wrote:[8] "Nearly always there is a history of a severe illness, which was supposed to be fever, and was marked by delirium and other head symptoms."

The organic or, as one may call them, the "vital" symptoms I have mentioned are of great importance to the physician. Speaking figuratively, a cerebral tumour in producing optic neuritis is trying to make the patient blind; in producing the other pathological conditions, those of the "vital" symptoms, it is trying to kill him. Following up Dr. Buzzard's very luminous suggestion, I advise that when a patient with optic neuritis dies suddenly or rapidly, or dies in an illness with the "vital" symptoms mentioned, the medulla oblongata, as well as the optic nerves and tracts, should be searched microscopically. There is, however, something to be said against the location of the changes under remark in the medulla. It is perfectly certain that the organic parts, although represented directly in the medulla oblongata, are indirectly repre-

[5] Journal, May 12th, 1877, p. 575.

[6] Trans. Ophth. Soc., vol. i., p. 90.

[7] Trans. Ophth. Soc., vol. i. 1881, p. 98.

[8] Roy. Lond. Ophth. Hosp. Rep., vol. v., 1866, p. 307.

sented (represented over again or re-represented) in the mid-cortex of the brain; hence it may be thought the "vital" symptoms spoken of are owing, not to morbid changes induced in the medulla, but to such changes provoked by the tumour in the cortex in its neighbourhood, especially as it is unquestionable that the tumour does produce the changes round about itself on which epileptiform seizures depend. This I think unlikely, especially when the tumour is in one half of the brain. I now wish particularly to mention that, as Fagge[9] pointed out, some patients die of cerebral tumour by rapid respiratory failure. In one case under my care artificial respiration was tried, so respiratory, so to speak, was the condition. I cannot but think that in death by failure of respiration in cases of intracranial tumour there have been morbid changes akin to optic neuritis induced in the respiratory centres of the medulla oblongata. It must be borne well in mind that, strictly speaking, optic neuritis is not a symptom, although it is the custom to call it one, but a pathological condition; often enough it exists without any symptom (defect of sight) attending it. Hence it compares, not with convulsion and the "vital" symptoms, but with the pathological conditions of the cortex or medulla on which they depend.

There is no end to speaking of the integration of ophthalmological and neurological knowledge. The ophthalmic surgeon studying nystagmus is helping towards the elucidation of the nature of tremor, in which the neurologist is greatly interested. Great attention should be paid, both by ophthalmic surgeons and physicians, to the tremor in cases of Graves's disease—one of the four varieties of "vibratile tremor" of Charcot.[10] Work done on miner's nystagmus is valuable to the general body of scientific medical workers, as helping to complete the homologous series of professional spasms, of which writers' cramp is the commonest example. The work the ophthalmic surgeon has done on the symptomatology of cases of paralysis of ocular muscles gives the clue, as Wundt long ago suggested, to the interpretation of incoördinations experimentally produced by destructive lesions of nervous centres in animals. I think it gives the clue also to the interpretation of all disorders of coördination in man, including writers' cramp and other occupation spasms, from negative lesions. It explains the squinting resulting from hypermetropia; I think, too, that it explains the seeming alterations in the size of objects after instillation of atropine and eserine, a thing of importance, since these alterations occur at the onset of some epileptic fits.

In the field of the eye we are most likely to be able to trace the ascending complexity, speciality, &c., in the evolution of movements from the ocular muscles to their representation in most complex movements in the highest motor centres—that is, in the physical bases of visual ideas. Whilst a man is looking at anything, there is at that time engagement of all orders of centres from highest to lowest, and thence on to ocular muscles.

Much valuable material has been accumulated for the study of the evolution of ocular movements by Graefe, Hutchinson, Priestley Smith, Vulpian, Prevost, Ferrier, Horsley, Beevor, and others. We have clinical observations on ocular paralyses from disease of (1) nerve trunks, of paralyses from disease of (2) lowest motor ocular centres (ophthalmoplegia externa), of ocular paralyses (as in lateral deviations of the eyes), from lesions of (3) still higher centres ("motor region" of the cerebral cortex, or, as I call them, middle motor centres), and I hope we shall have such observations of ocular paralyses from lesions of (4) motor centres still higher—the highest motor centres, the physical basis of visual and of other mental states. I have considered this subject in the Bowman lecture (1885).

There is no task I would rather accomplish than this, for by doing it we should do very much towards showing that the organ of mind is sensori-motor, as is the rest of the nervous system. We should thus place the study of epilepsy proper and insanity on a realistic basis. I have long urged a study of the evolution of movements, and first of all in ophthalmic journals. "If such an expression be permitted, there is a gradual increase in intelligence in movements from the lowest nerve trunks to the highest nervous centres." This, written in 1866,[11] expresses crudely what I think can be scientifically stated as a basis for investigation.

[9] Prin. and Prac. of Medicine, vol. i., p. 10, Second Edition.
[10] Diseases of the Nervous System, vol. iii., Sydenham Society's Trans., p. 186.
[11] Roy. Lond. Ophth. Hosp. Rep., vol. v., Part 4, p. 290.

Alienist physicians, being more than any other physicians directly interested in the anatomy and physiology of the nervous system as they correspond to psychology, are of necessity interested in ophthalmology, and are in great debt to it. I hope they will be interested in the scheme of work suggested on evolution of ocular movements; but I now speak of something more definite. I do not see how any question can be more important or more fundamental in nervous physiology, as it expressly corresponds to psychology, than whether mental states do or do not occur with the "outgoing" current as well as with the "ingoing" current.

Now the battlefield of this question is the case of paralyses of ocular muscles when the full symptomatology of those cases, particularly "erroneous projection," is considered. There are reasons more on the surface why alienist physicians should coöperate with ophthalmologists. Much has been done in the study of ocular symptoms of cases of insanity (Westphal, Allbutt, Wiglesworth), but much remains to be done in this direction. Great good would come from investigation of such an insanity as general paralysis by skilled ophthalmic surgeons conjointly with experienced alienist physicians and other neurologists. I very much wish this joint investigation could be made.

Physicians should try to help ophthalmology by bringing forward cases little likely to come under the notice of ophthalmic surgeons. Cases of spasmus nutans with nystagmus (a variety, I think, of spinal, or rather spinal-system chorea, a symptomatic condition akin to canine chorea) would, as "living specimens," interest all our members. I wish surgeons who see cases of so-called traumatic tetanus would settle whether the muscles of the eyeballs do or do not suffer spasm in the exacerbations of this disease. If the ocular muscles are not involved, their escape is a matter of great importance and significance, especially to neurologists. Physicians and ophthalmic surgeons ought to note the motor condition of the eyes in the tetanus-like seizures sometimes occurring in cases of tumour of the middle lobe of the cerebellum. Very much more could be done by physicians in the observation of the development and the order of development of ocular movements in cases of epileptiform seizures from mid-cortical disease. I hope that Horsley's promised demonstration before the Society of the representation of ocular movements in certain parts of the monkey's cortex cerebri will be a stimulus to our medical members to note very carefully the behaviour of the eyes in the "cortical fits" of man.

I think aural surgeons could bring before us cases of great ophthalmological interest. I have published the case of a man who had ocular movements during a paroxysm of auditory vertigo,[12] and that of a woman[13] in whom lateral movements of the eyes were producible by pressure on a diseased ear. Mr. Laidlaw Purves gave me most important help in the investigation of the woman's case, as did also Mr. Couper. If such cases are met with by Mr. Purves, I hope he will let us see them, especially as he, having great ophthalmological knowledge, would investigate the ocular as well as the aural side of the cases thoroughly. Dr. Kipp, of Newark, New Jersey,[14] has recorded several very important cases of abnormal ocular movements in cases of ear disease. He refers to cases recorded by Bürkner, Urbantschitsch, Jacobson, Gruber, and Moos, as well as to the two I have reported. I think all ophthalmic surgeons will be interested in Dr. Kipp's researches. Speaking of otology, I admit that a knowledge of this department of medicine as well as of ophthalmology is of vast importance to the neurologist. I regret very much that I did not years ago pay as close an attention to otology as I did to ophthalmology, especially as the cases just referred to show that the two are related. Let young neurologists take warning, so that they may not afterwards have like regrets.

I have illustrated the relation of ophthalmology to general medicine by its bearing on neurology; it has, of course, much wider relations. I can best conclude this address by adopting the words with which Dr. James Anderson ends a paper:[15] "It seems to me the best and most hopeful feature of ophthalmology that it has relations, closer or more remote, with every branch of medicine and surgery—indeed, with almost every branch of science."

[12] Brain, April, 1879.
[13] Trans. Ophthal. Soc., vol. iii., 1883, p. 261.
[14] Trans. American Otological Society.
[15] Some Ocular and Nervous Affections in Diabetes and Allied Conditions, Ophth. Review, February to April, 1889.

SOME REMARKS ON

THE NON-TUBERCULAR AND NON-CARDIAC HÆMOPTYSIS OF ELDERLY PERSONS.[1]

BY SIR ANDREW CLARK, BART., M.D.,
CONSULTING PHYSICIAN AND ONE OF THE LECTURERS ON CLINICAL MEDICINE TO THE LONDON HOSPITAL.

MANY years ago, when examining the evidence of the arrestment of phthisis and endeavouring to determine the conditions in which it occurred, I was struck with the large numbers of cases of hæmoptysis occurring in elderly persons who were at the time and remained afterwards free from signs either of pulmonary tuberculosis or of structural disease of the heart. Being in those days completely influenced in my views of hæmoptysis by the teaching of Dr. Walshe, I ascribed every case of pulmonary hæmorrhage in which there was no heart disease or aneurysm, or malignant growth, to tubercular disease of the lung. Perhaps I carried to an extreme issue the opinions of this distinguished master; at any rate, I must confess that the consequences were not satisfactory for the patients or for me. At last, however, there occurred in the wards of the London Hospital a case of fatal hæmoptysis which not only made plain the error of my views, but revealed a cause, hitherto, I believe, unnoticed, of pulmonary hæmorrhage. The patient, a man between fifty and sixty years of age, was admitted for an attack of subacute bronchitis. He had been for many years the subject of a moderate progressive osteo-arthritis, and during the last four or five winters had suffered from severe bronchial catarrh. The attack from which the patient suffered on admission was of the ordinary character; there were signs of some congestion at the posterior bases and of emphysema of the front parts of both lungs, but nothing was found to suggest the existence of tubercular disease. The heart and bloodvessels were sound, there was only moderate fever. The patient was placed upon a light diet and treated with alkalies, alterative aperients, and counter-irritants to the chest. About a fortnight after admission the patient began to cough up blood in small quantities at short intervals, and in spite of all that could be done according to the approved therapeutical teaching of the time—in spite of absolute rest, the strictest regulation of supplies, the application of ice to the chest, and the liberal use of various astringents—the bleeding persisted, and within a week the man died. The post-mortem examination revealed to the naked eye little that was unusual and nothing that was expected. The heart, the larger vessels, and the arterial valves were free from obvious structural change. The bronchial mucous membrane almost everywhere was swollen, congested, violet-coloured, and coated with a muco-purulent secretion. The anterior parts of both lungs were pale, dry, and emphysematous, and curious patches of emphysema surrounded by hæmorrhagic extravasations were noticed in back and lower part of both lungs, which were loaded with blood. Nowhere could there be discovered the smallest evidence of tubercular disease, of any malignant growth, or of any sort of coarse structural change which could account for fatal hæmorrhage. A most minute examination carried out with the aid of the microscope brought plainly to light two important facts. The first was that the seat of the hæmorrhage was in the immediate neighbourhood of the emphysematous patches, and the second was that the minute vessels, the terminal arteries for the most part, were in those localities always diseased. And finally, it appeared in the highest degree probable that there existed a direct causal relationship between the condition of the bloodvessels, the emphysema, and the hæmorrhage. For wherever there was an emphysematous patch there was a diseased artery; wherever the artery was much diseased the capillaries and venous radicles were also affected; and generally, although not always, where the terminal artery was obstructed and degenerating there was adjacent hæmorrhage. Through the observation of these facts and their relations I was led to conclude that the order of events issuing in the hæmorrhage arose and proceeded in the following way. I inferred that the initial visible movement in the malady had been some minute structural change in a terminal branch of the pulmonary or of the bronchial artery, and in consequence of this there had been brought about a more or less complete obstruction of the supply of blood through the territory involved; that following this there arose degeneration of the capillaries and venous radicles determining a true atrophic emphysema, and that the integrity of the bloodvessels being thus impaired, the formation of thrombi or recurrent condition of pressure had brought about the hæmorrhage which ended in death.

Now arose the cardinal question presented by this case, and necessary to be answered if any fresh knowledge were to be derived from it: "What was the intimate nature of the structural vascular changes to which I have adverted? There were two ways of replying to this question, each was distinct in itself, and the one which was most regarded was of the least importance. The small question was, What were the visible characters of the structural alterations in the bloodvessels? The large and crucial question was, What was the nature of the primitive dynamic changes, and which alone gave them form and meaning? In them and not in the vascular changes lay the importance of the case. The structural changes discovered in the affected bloodvessels were limited to nuclear proliferation in the middle coat, and an amorphous and hyaline infiltration of it and of the intima. When I endeavoured to determine the significance of these changes, and for this purpose studied the life history of the case, when I saw that the patient had been for years an arthritic, that he had suffered on many occasions from many of the constitutional manifestations of this diathesis, and that the structural changes in the pulmonary bloodvessels were akin in character to those which are found in the diseased articulations, I permitted myself to conclude that the malady was of an arthritic nature, and that I had seen and dealt with a case of what might be called without serious scientific impropriety, "arthritic hæmoptysis."

About fifteen years ago, in conjunction with Dr. Wall, I had the opportunity of closely studying throughout its course another case of fatal hæmoptysis which in all essential points resembled the case which I have just related. The patient was a stout, fair, florid, healthy-looking man of about fifty years of age. He consulted me for a troublesome bronchial catarrh, and told me that he was rheumatic, and that of late he had been getting fat, short-breathed, eczematous, and indolent. The digestive organs were in fair order, the urine habitually about 1012, but free from albumen and casts; the heart and systemic vessels were free from obvious change, and there were no signs of objective disease in the nervous system. In the lungs there were evidences of general bronchial catarrh, of congestion at both bases, and of emphysema in the front part of both lungs. The finger joints were rimmed or nodulated, a few minute subcutaneous nodules were found in both arms, and eczematous patches existed in various parts of the body and limbs. The treatment consisted of diet and exercise, of occupation and early hours, of alkalies and alterative aperients. The patient became much better, and I saw nothing more of him till twelve months afterwards, when I was summoned to visit him in consultation with Dr. Wall. From him I learned that the patient had relaxed into a careless mode of life, that he had recently caught a severe cold, and that the day before he had been seized with a moderate hæmoptysis which recurred every three or four hours. Such an examination of the patient as was at the time justifiable brought little to light. There existed a catarrhal state of the digestive organs; the urine was still low in density, limpid, and free from albumen; there was no cardiac murmur; the pulse, of fair volume, was about 80; the cervical veins were a little full; and the patient complained of a cough, of frequent frothy, sanguinolent expectoration, and of considerable oppression of the chest. Over the upper portions of both lungs were heard moist mucous râles; over both posterior bases coarse crepitations and increased resonance. The patient was treated in the usual manner by absolute rest, careful feeding, ice to the chest, aperients, and the strongest astringents in large doses at short intervals; but nothing proved of the smallest avail, and on the fifth day the patient became suddenly exhausted and died. A carefully conducted necropsy revealed the appearances of bronchitis, emphysema, pulmonary congestion, and scattered small hæmorrhagic extravasations. And here again, as in the case first related, were found, in significant conjunction

[1] A paper read at the Medical Society of London on Oct. 21st, 1889.

the emphysematous patches, the diseased bloodvessels and the extravasated blood. Except that the kidneys were rather small and hard, nothing of moment was found elsewhere. Plainly enough the source of the fatal hæmorrhage lay in the diseased bloodvessels, probably the disease was of an arthritic nature, and, pardonably enough one might venture to say again, here is another case of arthritic hæmoptysis. Since 1875 I have seen in persons over fifty some twenty cases of hæmoptysis of the kind which I have now described, and as in the ordinary annals of medical literature I have been unable to find any clear account of such a variety of pulmonary hæmorrhage, and as the treatment pursued in ordinary forms of hæmoptysis is not successful in this form, I have thought it right, in the hope of further knowledge, to bring the subject to the notice of the profession.

It is not my intention upon this occasion to enter into any systematic account of this variety of pulmonary hæmorrhage, this arthritic hæmoptysis, as I have ventured to call it. But as the cases related have led me to discontinue the ordinary method of treatment by astringents, and to try another method which seems to be more rational, and hitherto at least has proved more successful, I propose to relate two other illustrative cases seen in consultation with other practitioners. Some seven years ago Sir William Jenner, Dr. Wilson Fox, and I were summoned together to consult about a lady suffering from an incoercible hæmoptysis. She was a Jewish lady over sixty years of age, very stout, very "rheumatic," and always ailing. She had nodular finger joints, frequently recurring bronchial asthma, and occasional outbreaks of either eczema or of urticaria. Ten days before our visit, when suffering from an ordinary catarrh without accompanying fever, the patient began to cough up blood, and had continued to do so in small quantities at intervals of three or four hours since. The patient had a somewhat large heart, but there was no murmur, and there was no evidence of systemic arterial disease. Within the previous two days the pulse had become quick and frequent, and the temperature had risen to close upon 100°. In the lungs there were signs of generalised bronchial catarrh, of emphysema, and of basic congestion. The patient complained of frequent cough, of great oppression of chest, and of growing difficulty in expectorating. She had, furthermore, a loaded tongue, thirst, loss of appetite, a swollen liver, and all the signs of a gastro-enteric catarrh. She had been carefully treated by absolute rest, fluid food, ice to the chest, and in succession by lead, gallic acid, and hypodermic injection of ergotin. After full discussion, it was determined that another method of treatment should be tried. The patient was ordered to have a light and rather dry diet, to be sparing in the use of liquids, to discontinue the ice, to have a calomel pill at night, followed by a saline cathartic on the succeeding morning, and to take an alkaline mixture with ammonia between meals twice in the day. Within thirty-six hours the bleeding ceased, and the patient made a speedy and complete recovery. About a year and a half ago the patient consulted me at my house for subacute rheumatic arthritis. She told me that since she saw me first she had had one attack of bleeding, and that it was quickly cured by calomel and salines.

About six years ago I was summoned to meet Mr. MacLaren in consultation about the case of a solicitor who had been suffering from an obstinately recurring hæmoptysis of small amount. The patient was over sixty years of age, had been always delicate and often suffered from incomplete attacks of what was considered to be rheumatic gout. He had rimmed finger-joints, patches of dry eczema, and occasional nervous headaches. A few weeks before our consultation he had contracted a feverish bronchial catarrh and was confined to the house. After a fortnight's cold he began to have some oppression of chest and to be short breathed. This was followed by a small hæmoptysis which gave relief, but the hæmoptysis recurred, and at our consultation there was no sign of its cessation. The patient had no fever and only a slight hurry of circulation. There was a general bronchial catarrh, the fore parts of the lung were emphysematous, and there was some basic congestion, greater on the right side than on the left. The tongue was furred. There was anorexia with some thirst. The bowels were inadequately relieved, and the urine was pale and of low density, but free from albumen. The patient was directed to rest and keep warm, to live upon a light, semi-solid diet, to be sparing in the use of liquids, to be freely counter-irritated over the chest, to have a succession of small doses of calomel at bedtime, supplemented by saline aperients in the morning, and to take between meals, twice or thrice in the day, a mixture containing iodide of potassium, bicarbonate of potassium, and ammonia. This treatment was not particularly agreeable to the patient, who had medical views of his own. Nevertheless, it was adopted, and appeared so far successful that within four days of its adoption the hæmorrhage had ceased. I heard of this patient from a relative some months ago, and I was told, although he led a too sedentary life, he was well and at work

Many additional illustrations of this variety of hæmoptysis could be given, but as in each case there is a close resemblance to each other, and as in all the cases the interpretation of the pathological conditions accompanying the hæmorrhage and the treatment employed for its relief were substantially the same, it would be unpardonable to occupy the time of the Society with the reproduction of details which could prove neither interesting nor instructive to the Fellows. I content myself with having brought to the notice of the Society this curious form of pulmonary hæmorrhage, and believing that a critical discussion of the subject will lead to broader and juster views concerning it. I conclude with a statement of the propositions which I have framed out of the results of my own inquiries.

These propositions are as follows:—

1. That there occurs in elderly persons, free from ordinary diseases of the heart and lungs, a form of hæmoptysis arising out of minute structural alterations in the terminal bloodvessels of the lung.

2. That these vascular alterations occur in persons of the arthritic diathesis, resemble the vascular alterations found in osteo-arthritic articulations, and are themselves of an arthritic nature

3. That although sometimes leading to a fatal issue, this variety of hæmoptysis usually subsides without the supervention of any coarse anatomical lesion of either the heart or the lungs.

4. That when present this variety of hæmorrhage is aggravated or maintained by the frequent administration of large doses of strong astringents, and by an unrestricted indulgence in liquids to allay the thirst which the astringents create.

5. That the treatment which appears at present to be the most successful in this variety of hæmoptysis consists in diet and quiet, in the restricted use of liquids, and the stilling of cough; in calomel and salines, in the use of alkalies, with iodide of potassium, and in frequently renewed counter-irritation.

ON THE

RHYTHM OF THE PRESYSTOLIC MURMUR,

INCLUDING CERTAIN POINTS IN CONNEXION WITH THE PHYSIOLOGY OF THE CARDIAC VALVES.

BY WILLIAM FENWICK, M.D., M.R.C.S.,

AND

WALKER OVEREND, B.A. OXON., B.SC. LOND.,

RADCLIFFE TRAVELLING FELLOW.

PART I.

IN the present paper we communicate the results of some observations on the time of closure of the semilunar valves, and the behaviour of the auriculo-ventricular valves during the course of the cardiac cycle. In the concluding sections we contribute certain facts in regard to the rhythm of the presystolic murmur, with remarks on the causation of mitral obstructive murmurs in general.

1. *The relation of the aortic second sound to the cardiogram.*—As is well known, Chauveau and Marey[1] introduced elastic bags within the cardiac cavities of horses, and connected them with registering tambours. A small eminence occurring in the curves obtained from the left ventricle, near the end of the descent, which represents the ventricular relaxation, was thought to be due to closure of the semilunar valves. Fredericq[2] auscultated the second sound in the slowly beating hearts of horses, and simultaneously observed

[1] Gaz. Méd., 1861. [2] Centralblatt f. Physiologie, No. 1, 1888.

the lever of the cardiograph, writing on a blackened cylinder. His results were in perfect accord with those of Chauveau and Marey. Edgren[3] auscultated the first and second sounds together, and recorded these simultaneously with the cardiographic tracings. He thought the second sound occurred somewhat later—that is, just about the bottom of the descent, which indicates the ventricular diastole. Landois[4] referred the closure of the aortic and pulmonary valves re-

FIG. 1.

Cardiogram from a case of exophthalmic goitre. The lever magnified 30 times.

spectively to two small elevations which occasionally occur in the cardiogram, during the period when the ventricle is comparatively empty but remains contracted (*Verharrungszeit*, Baxt,[5] Moens[6]). Thus, in the cardiogram, represented in Fig. 1, Chauveau and Marey think the closure occurs just before *c* is reached, Edgren about this point, while Landois refers the time of this event to some spot intermediate between the letters *c* and *d*.

It will be profitable, perhaps, at this stage to summarise briefly the views of Martius[7] of Berlin, who has devoted considerable attention to this subject. His interpretation is as follows: The closure of the valves occurs at *c*, thus the period *a*–*c* corresponds to the interval between the first and second sounds. At the point *a* the tension of the auriculo-ventricular valves takes place; at *b* the semilunar valves open, and blood commences to pour out of the ventricles. At *c* commences the *Verharrungszeit*, of which we have already spoken. This period lasts till *d*, when the ventricles commence to relax, and blood to enter them from the auricles. This influx of blood is not represented on the tracing, since the axis of the ventricle now recedes from the chest wall; at the point *e* these two compensate each other, however, and the diastolic filling begins then to make itself manifest. Martius thinks the first undulation, *f*, is caused by the wave of blood, reflected against the root of the aorta, after the arterial beat is over. The elevation, *g*, is due to influx of blood into the ventricle during the auricular systole. When the diastole is long there may be an intermediate rise, which Martius also ascribes to a second wave reflected from the aorta.

In our observations we used a Marey's tambour with button for application to the heart's apex, and connected with a registering tambour. On the same stand as the latter a second registering tambour was fixed, and connected with an indiarubber capsule containing air. The capsule was tapped with the finger synchronously with the first or second sound, as heard through the binaural stethoscope. The rubber tubes connecting the capsule and cardiograph with the registering tambours were of equal length and calibre. In experiments of this kind it has been demonstrated that there is no reaction time,[8] since the mind, once accustomed to the rhythm, anticipates the sound, and the finger makes the signal, exactly at the time of its occurrence. The method is virtually the same as that which Donders[9] used to estimate the time interval between the first and second sound, and with practice the errors of experiment become quite insignificant.[10] Immediately after each revolution corresponding points of the levers were recorded by allowing them to write vertical lines while the cylinder remained stationary. This was done for the purpose of accurate comparison, any other method of determining these points being open to error. In Fig. 2 the lower inscription is a normal cardiogram; the upper registers the second sound. The letters *a a* indicate corresponding points. The result of many series of observations demonstrates the fact that the second sound occurs in the *immediate vicinity* of that portion of the cardiogram which indicates the *commencement of the ventricular relaxation*. It is probable,

FIG. 2.

A normal cardiogram. Beats 84 per minute. *a*, Aortic second sound auscultated. *a*, *a*, Corresponding points of the two levers.

however—and we shall emphasise the statement hereafter—that the *actual closure* of the valves takes place immediately after the flow has ceased—that is, about the letter *c* in Fig. 1, while the *sound* is produced at the period we have just indicated. On the other hand, in a case of exophthalmic goitre where no valvular mischief existed, and in which we auscultated both sounds separately, the second sound occurred at the letter *a'* in Fig. 3, corresponding with *c* in Fig. 1. The

FIG. 3.

Cardiogram of exophthalmic goitre. Beats 120 per minute. Second sound auscultated, *a'*.

heart was beating 120 per minute; nevertheless the results are trustworthy, since on auscultating the first sound the latter exactly corresponded with the ventricular upstroke. The position of the second sound appears, then, to depend on the amount of aortic tension, and in this way it is possible that the conflicting results of various observers may be explained. This does not affect the sequence of events within the heart itself, since, as we have already insisted, the valves are closed when the flow of blood ceases.

In the cardiogram of Fig. 1, the part of the curve from *c* to *d* corresponds with the empty and contracted final period of Moens. We have assumed the existence of this period, but it is possible that the portion from *b* to *c* at least represents a disfigured part of the cardiogram, the deformity arising from the rush of blood out of the ventricles. No such *Verharrungszeit* exists in curves taken from the excised and bloodless hearts of mammals, and in cardiograms of aortic regurgitation the phase is scarcely recognisable. We venture to suggest that the assumption of such a period is not justifiable, and that the ventricle commences its diastole some time between the letters *b* and *c* (Fig. 1).

2. *The relation of the aortic second sound to the sphygmogram.*—The cardiograph was used to record the carotid pulse, and the signals were made as described in the previous section. Thus, in Fig. 4 *a* represents the predicrotic wave, which in the carotid pulse is always relatively well marked; *b* is the dicrotic eminence. On the upper line the signals are registered, while *x x* are corresponding points of the two levers. On measurement, it is found that the *second sound* coincides almost exactly with the *predicrotic*

[3] Cardiographische und Sphygmo-studien, Scandinavisches Archiv. für Physiologie, 1889.
[4] Graph. Untersuch. über d. Herzschlag., p. 48, 1876.
[5] Du Bois' Archiv, 1878. [6] Ebenda, 1879.
[7] Zeitschrift für Klinische Med., vol. xiii., pp. 3–6, 1888.
[8] Martius, loc. cit.; Byrom Bramwell and Murray, British Med. Journal, Jan., 1888.
[9] Vide Rollett's article, Hermann's Handbuch d. Phys., Band iv., S. 155.
[10] Control experiments with metronome showed an experimental error only, amounting on the average to about 1 per cent. (Donders).

notch; and after allowing one-tenth of a second (Waller) for the transit of pulse waves from the heart to the carotid, it is evident that the *sound corresponds with the dicrotic notch.* Since, therefore, the sound occurs previously to the formation of the dicrotic wave, we adopted the following

FIG. 4.

Carotid pulse-curve (normal). *a*, Predicrotic. *b*, Dicrotic wave. *x*, *x*, Corresponding points. *e*, Second sound.

view as a picture of the events which occur *at the root of the aorta* when blood enters it from the heart.

The blood which leaves the ventricle when the semilunar valves open is temporarily lodged in the commencing portion of the aorta, the latter dilating as the result. At the moment when the so-called *Veharrungszeit* of Moens ensues the flow of blood suddenly ceases, and a negative pressure,[11] due to the inertia of the fluid, appears behind the moving column. The aspiration induced by this diminished pressure produces a momentary reflux, which slightly dilates the root of the aorta, and originates the predicrotic wave, while simultaneously closing the valves. By virtue of its elastic walls, the aorta reduces its calibre, and tends to assume, for the moment, a new position of equilibrium, depending on the amount of influx, and necessarily coinciding with a higher position of the recording lever than that immediately preceding the ventricular systole. Having reached this position of equilibrium, however, the aorta passes beyond it (dicrotic notch), and immediately re-expands. During the primary recoil the valves are tightened by the impact of blood, and are set into vibration (second sound);[12] while the secondary expansion generates a new wave (the dicrotic or second beat).[13]

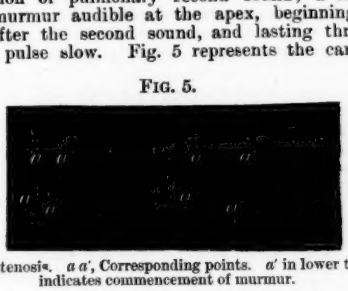
3. *On the mechanism of closure of the auriculo-ventricular valves.*—In order to obviate the possibility of regurgitation, it has been supposed that the flaps of the auriculo-ventricular valves are approximated during the progress of diastole. Paladino[14] thought the curtains were elevated by muscular contraction about the time of the auricular systole, and longitudinal muscular fibres have been described, which run from the auricles into the valves.[15] It has also been suggested that the papillary muscles contract earlier than the rest of the ventricular wall, or may even commence to act during the *earlier* part of the diastole.[16] On the other hand, a mechanical view has been preferred by some physiologists, according to which a reflux of blood takes place during diastole, which, insinuating itself between the valves and the ventricular walls, floats up the curtains into a position better adapted for their early closure. While some authors have thought[17] that the valves become convex to the auricle during the systole of the ventricle, according to others they become horizontal.[18] Kürschner[19] and Purkinje, however, asserted that the valves are drawn down during the systole, and that the complete emptying of the ventricular cavity is in this way secured. Nega,[20] also, states that, having introduced the finger within the beating hearts of calves, the valves were drawn downwards towards the apex of the heart during its contraction. A sphincter-like action of the muscles surrounding the auriculo-ventricular valves has also been described,[21] which must largely participate in their effectual closure.

In order to determine the relation of the contraction of the papillary muscles in point of time to that of the ventricle itself, we opened the cavities of the hearts in rabbits, the latter being removed from the body, and still beating vigorously. It was perfectly obvious that the papillary muscles contract exactly at the same moment as the rest of the ventricular wall. We also cut away part of the wall of the left auricle at a point some distance above the valves, and observed the latter *in situ*, while we supplied the heart with saline solution (0·6 per cent.) at the normal temperature. We observed no movement of the valves during auricular systole. The flaps lie tolerably slack during diastole, and occupy a position intermediate between the axis of the ventricle and its walls. Immediately the ventricular systole begins the flaps are floated up, rendered tense, and come to occupy a horizontal position, there being no trace either of depression of the valves or regurgitation. A slight sphincter-like action at the same time is observable at the auriculo-ventricular orifice, but this is by no means so evident as the results of Ludwig and Hesse would lead one to expect. It is possible, however, that the hearts, in their experiments, after being placed in a hot solution of bichromate of potash, represent a somewhat abnormal or exaggerated condition of the systolic phase. Since the valves remain horizontal during systole, it follows that there must be a certain amount of blood left in the ventricle after each systole is over,[22] and Roy,[23] having introduced the finger through a small opening made at the apex, convinced himself that such was indeed the case. With regard to this question we used the following method. A rabbit is anæsthetised, artificial respiration commenced, and the heart exposed. A moment is selected when the beats are powerful and tolerably slow, and while one of us placed a pair of Spencer Wells' forceps over the left auricle, just above the valves, immediately the auricle has executed its beat, the other clamped the root of the aorta in a similar manner, immediately after the corresponding ventricular systole was over. The heart was then removed, the left ventricle opened, and the clamping of the left auricle tested. We found that there is some residual blood, and think the method, which is quite practicable, might be useful in determining the relation between the amount of the latter and the capacity of the ventricle under varying conditions.

PART II.

4. *The presystolic murmur.* — We were fortunate in securing cases of this lesion, where the beats were regular—a condition indispensable for accurate measurement.[24] Case 1: Eliza A——, aged seventeen. She has not had rheumatic fever or scarlatina. Cardiac dulness not increased on percussion; a well-marked thrill at apex; accentuation of pulmonary second sound; a loud presystolic murmur audible at the apex, beginning immediately after the second sound, and lasting throughout diastole; pulse slow. Fig. 5 represents the cardiogram

FIG. 5.



Mitral stenosis. *a a'*, Corresponding points. *a'* in lower tracing indicates commencement of murmur.

and the signals. The letters *a a'* respectively, in the two lines, represent corresponding points of the two levers. It is obvious that the murmur commences immediately after the depression—that is, at *a'* in the cardiogram. The apex beat was feeble, but three undulations occurring in the

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[11] From observations on the veins, Moens concluded that this negative pressure occurs during the systole and coincides with the commencement of the comparatively empty but contracted period of ventricular contraction (Du Bois' Archiv, 1879). Whether the negative pressure which exists when the auriculo-ventricular valves open is a remnant, as it were, of the above—a view we are inclined to accept,—or is produced by a so-called suction power on the part of the ventricle, we cannot here discuss.

[12] Talma (Pflüger's Archiv, 1880) asserts that the second sound is not so much due to vibrations of the valves as to that of the fluid column which is impacted against them. Webster (Journal of Physiology, vol. iii.) thinks that both are factors concerned in its production, but that it is impossible to determine their relative importance.

[13] Burdon-Sanderson (Handbook to Phys. Lab.) showed that a dicrotic wave may occur in a schema devoid of valves. When these are present, however, it is possible that the wave may be intensified. (Rückstonswellen. Landois.)

[14] Hermann's Handbuch d. Phys., Rollett's art., vol. iv., p. 161.

[15] Gussenbauer, Sitzungsberichte d. Wien. Acad., vol. lvii., 1868.

[16] Mayo Collier, Illust. Medical News, vol. iii., p. 63, April, 1889.

[17] Burdon-Sanderson, Handbook to Phys. Lab., p. 257.

[18] Sandborg and Worm-Müller.

[19] R. Wagner's Handwörterbuch der Phys., ii., p. 42, 1844.

[20] Vide Hermann's Handbuch, Band iv., p. 163

[21] Ludwig and Hesse, Du Bois' Archiv, 1880.

[22] Sandborg and Worm-Müller. [23] Brit. Med. Jour., Dec. 13th, 1888.

[24] The tambour for application to the apex must not be too large: otherwise there is no space left for auscultation.

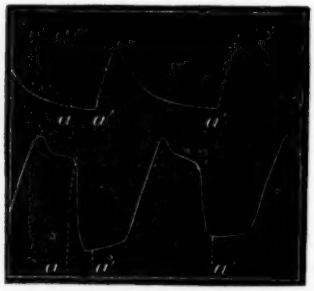
diastole are fairly well represented. As far as the cardiogram shows, the left auricle does not appear to be hypertrophied, and there were no physical signs of the same.—Case 2: Mary S——, aged thirty-one. She has had rheumatic fever twice; anæmic; apex beat in nipple line; area of cardiac dulness increased; a presystolic bruit, apparently commencing about the middle of diastole and ending abruptly at the first sound. A well-marked systolic bruit; pulse 80 and regular. In Figs. 6 and 7 cardiograms of this case are given. In Fig. 6, when the patient was

FIG. 6.

Mitral stenosis. Patient perfectly quiet. *a'* = commencement of murmur.

perfectly quiescent, the murmur occurs immediately before the upstroke, which represents the ventricular systole, and during the auricular beat. After exertion the murmur becomes longer and intensified, as seen in Fig. 7. We

FIG. 7.



Mitral stenosis (same case as Fig. 6) after exertion. *a*, Commencement of murmur.

have also timed the thrill. We did not find it possible to compare the thrill with the cardiogram in the same manner as the murmur, since the area where the thrill was felt most plainly was encroached upon by the cardiograph itself at the apex. But when one of us signalled the thrill and the other the murmur, we found them to be identical in time.

5. *Causation of mitral diastolic murmurs.*—These murmurs have been classified as "early," "mid," and "late"—that is, according to the position they occupy in the cardiac diastole.[25] The mid-diastolic is identical with the post-diastolic of Hayden. The late-diastolic was first regarded as presystolic by Fauvel (1843), and later, as occurring during the period of the auricular beat, by Gairdner (1862). The early and mid-diastolic have both been attributed to the so-called suction power of the left ventricle (Dickinson,[26] Bristowe,[27] Rolleston[28]). At the present time it seems to be generally admitted that these murmurs owe their origin to the vibration of fluid veins, produced by the rushing of blood through a stenosed orifice into a wider space. If such be the case, it ought not to be a difficult matter to produce such murmurs in the beating hearts of animals. Through the kindness of Professor Schmiedeberg of Strasburg, who placed the resources of his laboratory at our disposal, we were enabled to perform a series of experiments in this direction. A rabbit, having been rendered completely anæsthetic by means of morphia, was fastened to a Czermak's holder, and tracheotomy performed. The tracheotomy tube was connected with an apparatus for artificial respiration, constructed by Miescher of Basle. The chest was opened, the internal mammary artery secured, and the heart laid bare. In the first experiment we passed a curved needle, threaded with fine gut, through the right auricle close to the septum, and tied the ends over the left auricle, thus producing a partial constriction just above the auriculo-ventricular valves. In about forty seconds a distinct presystolic bruit became audible. Since there was some slight oozing from the right auricle, in our subsequent experiments we employed graduated compression over the left auricle, just above the valves, by means of fine forceps. After a short interval, on listening with the binaural stethoscope over the ventricle, a well-marked presystolic murmur was heard. It is obvious, then, that such murmurs may be produced by vibrating fluid veins.[29]

Dr. Bristowe, in felicitous language, has compared these mitral obstructive murmurs to "the fitful or accidental roarings of a continuous torrent," and the question at once arises, What are the disturbing factors which induce these momentary exacerbations of force? We have already remarked that the early and mid-diastolic have been ascribed to a so-called suction power of the left ventricle. In mitral stenosis, however, the cavity of the left ventricle becomes smaller, and its walls tend to become atrophied. The negative pressure of such a ventricle cannot be very significant, and its elastic expansion certainly cannot continue after the auricular blood has entered it; since the latter, held back during systole by the mitral barrier, is increased in quantity, while the capacity of the left ventricle is diminished. On the other hand, it is possible that such a negative pressure occurring in the *right ventricle* in cases where there is a deficient quantity of blood in the vessels (anæmia, pernicious anæmia, Quincke) may be instrumental in the production of the so-called *bruit de diable*. As is well known, this murmur is continuous, or rhythmic and diastolic, increased by inspiration, and conditions, as Chauveau demonstrated, favourable to the production of fluid veins exist in the veins at the root of the neck.

Balfour[30] has drawn attention to the increased pressure which necessarily prevails in the pulmonary circuit in cases of mitral stenosis. This increased tension of itself, we imagine, might lead to the induction of an audibly vibrating jet of fluid, where pathological conditions, as a stenosed mitral orifice, are suitable (fluid vein, Chauveau; pressure steam, Niemeyer). The negative pressure of the left ventricle, granting the existence, too, of stenosis, would only be available as a disturbing factor at the very beginning of diastolic expansion, and we are inclined to attribute the *early diastolic* murmur to the two factors combined—viz., the *vis a tergo* of the pulmonary tension with the evanescent *vis a fronte* of the negative pressure arising in the left ventricle. This early diastolic murmur is sometimes mistaken for aortic regurgitation, and, we believe, it has recently been referred to pulmonary regurgitation (Graham Steell[31]).

In the production of the mid-diastolic mitral the *vis a tergo* of the intra-pulmonary pressure plays the essential part. It may be urged that, if such be the case, the early diastolic mitral should always accompany it. But a little reflection will show that this is not necessarily the case. But we know, as yet, too little about these early diastolic murmurs and their variations to dogmatise. It has been also objected that in mitral regurgitation diastolic mitral murmurs are not present. But at the moment the mitral contains flap back, the ventricular systole being over, there is no constricted orifice to favour the develop-

[25] Vide Bristowe on Mitral Obstructive Murmurs, THE LANCET, Nov. 12th, 1887.
[26] THE LANCET, Oct. 1st and 8th, 1887. [27] Loc. cit.
[28] St. Bartholomew's Hospital Reports, vol. xxiv., 1888. Dr. Hilton Fagge thought that in extreme mitral stenosis the auricle begins to contract earlier, and goes on contracting longer. (Guy's Hosp. Reports, 1871.)

[29] Mr. Gotch of Oxford first suggested to one of us the artificial production of a presystolic murmur. Marey (Phys. Méd. de la Circulation, 1863) produced a like murmur, but in an artificial schema, by introducing a perforated plug between auricle and ventricle, but only when the auricular pressure reached a certain height.
[30] THE LANCET, Oct. 29th, 1887. [31] Med. Chronicle, Dec. 1888.

ment of a vibrating jet of fluid, although there may be an accumulation of blood in the auricular chambers, and an increased intra-pulmonary pressure. It has been asserted that reduplication of the second sound, audible *only* at the apex, is an impossibility (Bristowe[32]). The latter physician explains the reduplication by a lagging of the aortic valves. But in mitral stenosis, conditions exist which cause the aortic valves to close rapidly—viz., a diminished quantity of blood in the left ventricle, and the pulmonary valves to close later—that is, congestion of the right ventricle. On the other hand, Dr. Sansom[33] distinctly states, and in this he is supported by Dr. Cheadle,[34] that reduplication heard *only* at the apex and *not at the base* is possible. Dr. Sansom thought this was due to vibrations of the mitral valve. We think this is a very probable explanation, since the chordæ tendineæ must gradually become tighter with the progress of the diastole (Ludwig and Hesse).[35] Moreover, the mid-diastolic mitral murmur may run off from this so-called reduplicated sound. With regard to the presystolic murmur, Barclay[36] and Dickinson[37] have argued that this, as a matter of fact, is really systolic. This view presupposes the existence of an incipient noiseless stage in the ventricular beat of the normal heart. Our cardiograms, however, as in Fig. 6, clearly demonstrate that when the presystolic murmur is of a short sudden character, and the beats regular, the murmur commences immediately before the ventricular contraction, as indicated by the rise of the lever. The bruit is thus presystolic, both as regards sound and contraction; and Gairdner suggested that the systole of the auricle gives to the moving column of blood an additional impetus, as it were, which increases the velocity through the stenosed aperture, producing a vibrating jet of fluid, audible as the presystolic murmur. This is undoubtedly the case, and we venture to suggest that a short, rough, presystolic murmur is seldom, if ever, present, unless the auricle is acting well. Dr. Sansom states,[38] he has observed in many cases that "though there has been present a prolonged presystolic murmur, commencing in the long pause immediately after the second sound, cardiographic evidence has shown that the auricular systole occupied its normal position and extent." Such a case we have represented in Fig. 5. The same author[39] relates a case where the auricle was found post mortem to be exceedingly thin, and lined by an old laminated blood-clot. For prolonged murmurs of this kind, we think the increased pulmonary tension is the essential factor; in other words, if the pressure in the pulmonary circuit is sufficiently high, it may induce a combined mid and late diastolic mitral mumur, apart from any auricular assistance whatever. It is obvious, moreover, that there must be an intimate interdependence between the intra-pulmonary tension and the presence or absence as well as the duration of diastolic mitral murmurs. According to Balfour,[40] "whenever the intra-pulmonary blood-pressure gets lessened under the influence of tricuspid regurgitation, then the force of the auriculo-systolic or presystolic begins to fail, and ceases." Sansom[41] also relates a case in which the converse happened; thus, "the systolic murmur which was in the tricuspid area subsequently disappeared, and the presystolic murmur became louder."

Small elevations in the cardiogram, occurring during the diastole, have been already mentioned. By some authors they have been ascribed to the auricular systole, and it has even been asserted that three auricular contractions may occur to one ventricular beat. Gaskell showed that, by clamping the auriculo-ventricular groove, the sequence of the cardiac cycle might be changed, and two or more auricular beats might correspond to one contraction of the ventricle. But these diastolic waves occur in the normal cardiogram, and we have already referred to Martin's explanation of these elevations. But since they occur very frequently in mitral stenosis, where the reflection of waves from the aorta is not so well marked as in the normal circulation, we are inclined to refer them to the influx of blood from the auricle and its subsequent vibration. Moreover, such diastolic eminences are also well seen in cases of free aortic regurgitation (Galabin).[42] The third elevation is evidently due to the entrance of blood during the systole of the auricle itself.

6. *Summary.*—(*a*) The occurrence of the second sound coincides with the commencement of the relaxation of the ventricle, as indicated by the cardiogram. In the carotid pulse curve, making allowance for the time the waves take to travel, the second sound corresponds with the dicrotic notch, and therefore takes place before the formation of the dicrotic wave. (*b*) The auriculo-ventricular valves occupy a horizontal position during the systole of the ventricle, while the papillary muscles contract simultaneously with the rest of the ventricular wall. The ventricle does not empty itself completely, there being a certain amount of residual blood. (*c*) The mid-diastolic mitral murmur in mitral stenosis owes its existence to the influence of the high pulmonary tension. The latter also plays an indirect part in the production of the early and late (presystolic) mitral murmurs; but the immediate exciting cause of the early diastolic is the negative pressure of the left ventricle, while the late diastolic is usually due to the force of the auricular contraction. The murmur and the thrill coincide with each other in the cases we have examined. In conclusion, we embrace the opportunity of acknowledging our indebtedness to Professor Schmiedeberg of Strasburg for the use of his laboratory; also to Professor Burdon-Sanderson, who kindly lent us cardiographic apparatus.

[32] THE LANCET, Nov. 12th, 1887
[33] Transactions of the Medical Society of London, vol. v., p. 204.
[34] THE LANCET, May 11th, 1889.
[35] Du Bois' Archiv, 1880. Summarised by Dr. MacAlister, British Medical Journal, Oct. 1882.
[36] THE LANCET, March, 1872. [37] Ibid., Oct. 1st, 1887.
[38] Lettsomian Lectures, 2nd edit., p. 119, 1886. [39] Op. cit., p. 120.
[40] THE LANCET, Oct. 29th, 1887. [41] Op. cit., p. 136.
[42] Guy's Hospital Reports, 1875.

ON THE RADICAL CURE OF HYDROCELE BY EXCISION OF THE SAC.

BY F. A. SOUTHAM, M.B.OXON., F.R.C.S.ENG.,
SURGEON TO THE MANCHESTER ROYAL INFIRMARY.

IN a paper on the radical cure of hydrocele, which appeared in THE LANCET, Sept. 10th, 1887, I called attention to the method of treatment by excision of the sac, and described several cases in which this plan had been adopted with very satisfactory results. Since that date I have carried out the same treatment in three additional cases, and as these serve to illustrate some of the conditions in which this method of radical cure is indicated, a brief description of each is given below. A full account of the operation will be found in the article referred to, and further experience has shown that in addition to the ordinary measures for maintaining as far as possible an aseptic condition of the wound, the essentials for success are as follows:—1. A healthy condition of the patient.[1] 2. Removal of the whole of the parietal layer of the tunica vaginalis, so that two serous surfaces are not left in apposition. 3. Complete arrest of all hæmorrhage before the wound is closed. 4. Free drainage for the first few days. 5. Uniform pressure on the scrotum by means of the dressings, in order to maintain the deep surfaces of the wound in apposition. 6. Elevation of the scrotum during the period of healing. If attention is paid to these points, I believe that the operation is attended with little risk, and also that it is the most certain method of radical cure, it being practically almost impossible for a recurrence of the hydrocele to take place.

CASE 1. *Recurrence of hydrocele with adhesion of testis to anterior layer of tunica vaginalis after tapping and injection with iodine; excision of sac; cure.*—The patient, aged forty-four years, came under my care as an out-patient, suffering from a scrotal swelling, which presented all the appearances of an ordinary vaginal hydrocele, except that the testicle was situated at the anterior part of the tumour, forming a distinct prominence on the front of the scrotum. The hydrocele, which had been present for four or five years, had been tapped several times, and on the last occasion, about four months previously to coming to the hospital, it had also been injected with iodine. He stated that after the injection he was confined to bed for ten days,

[1] Provided the constitution is sound, the operation may be safely performed in adults of all ages up to sixty years; in three of my cases the patients were aged respectively fifty-three, fifty-five, and fifty-eight years.

as the part was extremely painful. As soon as he began to get about, the hydrocele gradually returned, and he noticed that the position of the testicle had altered from the back to the front of the swelling. The patient was admitted into the hospital, and a free incision having been made into the tumour along the outer side of the scrotum, about twelve ounces of clear, yellow fluid escaped. It was then found that the testicle was fixed to the anterior part of the tunica vaginalis by numerous firm adhesions; these were divided, and the whole of the parietal layer of the tunica vaginalis, which was somewhat thickened, was excised with scissors. The wound was closed with sutures, free drainage being provided for by a tube brought out at the upper and lower ends of the incision; on the eleventh day it was healed, and on the fourteenth day he left the hospital. When last seen, six months after the operation, there was no recurrence of the hydrocele.

CASE 2. *Extreme thickening and induration of the tunica vaginalis; excision of sac; cure.*—The patient, aged fifty-five years, came to the out-patient room on account of a scrotal swelling, the size of a fist. He stated that it first showed itself about three years previously and that it had been tapped three times, a quantity of clear fluid being drawn off on each occasion. The swelling resembled an ordinary vaginal hydrocele, except that it was much firmer than usual and quite opaque on examination by transmitted light. The history of the case and the conditions just mentioned pointed to the presence of a hydrocele with a thick sac wall, and this opinion was confirmed on exploring the swelling with a hypodermic syringe, a few drops of clear yellow fluid being drawn off. On account of the thickened condition of the sac the case was considered a suitable one for the excision treatment, and the patient was accordingly admitted into the hospital. On laying open the cavity of the tunica vaginalis several ounces of clear yellow fluid escaped. As was expected, the sac wall was found much thickened (measuring from a quarter of an inch to half an inch in thickness), and extremely indurated, cutting almost like cartilage. The whole of the parietal layer was excised, and the wound then closed with sutures, a drainage-tube being inserted. The wound readily healed except at its centre, where several of the sutures cut through, a superficial granulating surface the size of a shilling remaining. This was still unhealed at the end of three weeks, and did not cicatrise until a few weeks later after its margins had been refreshed under cocaine and brought together by three wire sutures. When the patient was last seen, about three months after the operation, there was no return of the hydrocele.

CASE 3. *Suppuration in tunica vaginalis, and sloughing of sac wall after tapping; excision of sac; cure.*—The patient, aged fifty-eight years, presented himself at the out-patient room, suffering from a painful fluctuating swelling, the size of a cocoa-nut, involving the left side of the scrotum, the tissues of which were œdematous and inflamed. He stated that he had been troubled with a swelling for about three years, and that it had been tapped eight or nine times. A few days after the last tapping, which had been performed a fortnight previously to coming to the hospital, the scrotum began to swell and become extremely painful. The inflamed condition of the scrotal tissues, the fluctuating nature of the swelling, and its rapid reappearance after tapping, all pointed to the presence of pus in the cavity of the tunica vaginalis, and the diagnosis was confirmed by an exploratory puncture with a small trochar and cannula. The patient was admitted into the hospital, and a free incision having been made into the swelling, about ten ounces of thick purulent fluid escaped from the cavity of the tunica vaginalis. As the tunica itself was much thickened (being coated over with layers of lymph, and presenting in places a sloughy, almost gangrenous, appearance), the whole of its parietal layer was removed by means of scissors. The cavity, having been washed out with carbolic lotion and dusted with iodoform, was plugged from the bottom with strips of lint dipped in carbolic oil, no attempt being made to close the wound on account of the inflamed condition of the scrotal tissues. It rapidly granulated up from the bottom, and the patient left the hospital at the end of a fortnight with the wound almost healed. When last seen, twelve months subsequently, he was free from any recurrence of the hydrocele, the seat of the operation being marked by a depressed cicatrix.

Manchester.

A CONTRIBUTION TO THE

STUDY OF CHRONIC VALVULAR DISEASE OF THE HEART,

BEING

AN ANALYSIS OF ONE HUNDRED AND FIFTY CONSECUTIVE CASES SEEN AT THE GLASGOW ROYAL INFIRMARY DISPENSARY, WITH A SPECIAL LIST OF CASES BEARING ON THE INFLUENCE OF PREGNANCY IN CHRONIC VALVULAR LESIONS.[1]

BY GEO. S. MIDDLETON, M.A., M.D.,

ASSISTANT PHYSICIAN TO THE GLASGOW ROYAL INFIRMARY, ASSISTANT TO THE PROFESSOR OF PRACTICE OF PHYSIC IN THE UNIVERSITY OF GLASGOW, ETC.

THE analysis on which this paper is based was originally prepared for presentation to the Glasgow University Medico-Chirurgical Society, one of my chief objects being to bring before the students the subject of cardiac valvular disease from the dispensary point of view, so as to give them a less unfavourable impression of these diseases than they are apt to derive from the cases seen by them in the hospital wards. The analysis has since been extended, and it has been thought that, though the numerical basis is too narrow for definite generalisations, the statistics and the facts brought out by them are of sufficient interest to be placed on record.

The cases on which this paper is based were seen at the dispensary or out-door department of the Glasgow Royal Infirmary during a period of thirty-four months in the years 1885–89. Cases of cardiac disease without murmur, of anæmia and of chorea with murmur, and of aneurysm of the arch of the aorta have been excluded from consideration, and only those have been brought under review in which a diagnosis of chronic valvular disease was made. Those who are conversant with the amount of work that has to be done at the hospital dispensaries will be aware of the possibility of errors in diagnosis having been made, partly from the necessarily brief time that can be devoted to each case, and partly from the fact that, as many cases are only seen once, there is no opportunity afforded of correcting or modifying the diagnosis. But care has been taken, as far as possible, to exclude all doubtful cases from these statistics. Bearing this in mind, then, I would direct attention to various points in connexion with valvular disease educed from an analysis of these cases.

Frequency.—The total number of cases was 150, which may be taken as certainly not less than one in 40 of all the new cases seen, which seems a large proportion. When we remember the number of cases excluded from review in which the heart was more or less involved, this would indicate a very large proportion of cases in which the condition of the heart has to be reckoned with as part of the disease.

Sex.—Of these cases, 78 were males and 72 females. Rather more males than females seek advice at the dispensary, so that these numbers probably indicate an equal liability to cardiac disease in the two sexes—a statement, however, which will be modified later.

Age.—From an analysis of the ages of the cases it would appear that up to the age of forty females are more liable than males, and it is worthy of note that in each of the first four decades of life the number of females exceeds the number of males. After the age of forty, on the other hand, the males affected greatly outnumber the females, the excess in this case also being observed at each decade. So far, then, as these statistics go, age would seem to have a considerable influence on the incidence of cardiac disease on the two sexes.

A. TABLE OF AGES.

Age.	Males.	Females.	Totals.
1 to 10	1	3	4
11 to 20	6	12	18
21 to 30	15	18	33
31 to 40	9	15	24
	31	48	
41 to 50	25	13	38
51 to 60	13	7	20
61 to 70	9	3	12
71 to 80	0	1	1
	47	24	

[1] A paper read at the Glasgow Medico-Chirurgical Society, Feb. 15th, 1889, and since extended.

The greater frequency in females during the first four decades is probably to be referred to the fact that females seem to be more liable to rheumatism than males (see below). The increased frequency in males after forty, on the other hand, may with probability be referred to the effects of degenerative changes (partly due to the mode of life as regards various excesses) and of strain from heavy work, these showing themselves in the most marked form in the fifth and sixth decades, when the wear and tear of life may give rise to valvular lesions without the intervention of rheumatism. This view will receive some confirmation when we come to consider the influence of rheumatism and the incidence of the various valvular diseases on the two sexes. The relative infrequency of valvular disease after sixty years of age may reasonably be attributed to death having already claimed many victims.

Causation.—In determining the causation considerable difficulty was frequently encountered, the class of people with whom we are dealing being in general ignorant, and inattentive to the influence of long-antecedent events in their lives. As will be seen from the table, however, in a very large number, 63, a history of rheumatic fever was obtained, thus confirming the view generally entertained as to the influence of this disease in the causation of cardiac affections. Bearing in mind that cardiac disease not unfrequently follows the mildest attacks of rheumatism, direct inquiry elicited the fact that thirty others had been subject to more or less severe so-called rheumatic pains or to

B. TABLE OF CAUSES.

Rheumatic fever in	63 = 42 per cent.	94, or 62·6 per cent.
Rheumatic pains in	30	
Gonorrhœal rheumatism in	1	
No rheumatic history in	56 (or 37·3 per cent.)	
History of strain in	6 (5 aortic).	
,, ,, bronchitis in	3	
,, ,, fright in	2	
,, ,, fits in	3	
,, ,, chorea in	1	

severe growing pains, and that one had had gonorrhœal rheumatism. There is thus a total of 94, or 62·6 per cent., in whom rheumatism might be suspected to be the cause. In 56 cases there was no history of any kind of rheumatic attack, and very few of these could offer any suggestion as to the cause of their disease. Six of them referred their condition to strain or hard work, and there can be little doubt that that is a tolerably fruitful source of cardiac disease, especially aortic, as we shall see. Two blamed a fright, which may be supposed to have given origin to symptoms from a previously latent disease. The same may be said of the cases in which fits were accused. The bronchitic cases are readily explained, the lesion being tricuspid regurgitation. The case attributed to chorea is included in the list, because the chorea dated many years back, and the lesion was mitral stenosis.

With regard to the 63 cases that had suffered from rheumatic fever, it is very noteworthy that there was a marked disproportion between the sexes, there being only 23 males, as against 40 females. Of those, on the other hand, who had a history of rheumatic pains, 17 were males and 13 females, and those without rheumatic history numbered 37 males and 19 females. These figures tend to support the view that rheumatic fever is more common among females than among males.

The average age of 23 males with a history of acute rheumatism was thirty-seven years, of 17 with rheumatic pains forty-one years, and of 37 with no rheumatic history forty-five years; while of the females 40 with a rheumatic history gave an average age of thirty-four years, 13 with a history of rheumatic pains an average of thirty-seven, and 19 without rheumatic history an average of thirty-five. The only point of note in this respect is the difference among the men of the average age of those with and without a rheumatic history.

Incidence of disease on the various valves.—This will be seen from the annexed table. The most outstanding feature of these numbers is the comparative immunity of the valves on the right side of the heart. It is, of course, well known that in extra-uterine life the valves on the right side are extremely rarely primarily attacked by disease; but it is also generally recognised that tricuspid regurgitation is by no means a rare consequence of old-standing bronchitis and of mitral stenosis. Considering the number of cases of chronic bronchitis that present themselves at the dispensary, and the number of mitral lesions above recorded, it is a matter of surprise to me that I have met with so few instances of tricuspid regurgitation, especially as I have been on the look out for that lesion. Of the seven cases seen the three pure cases occurred in association with chronic bronchitis, and the other four in combination with mitral lesions. The one case recorded as probably stenosis of the pulmonary artery was regarded as congenital, and it was supposed that there was in addition patency of the

C. TABLE SHOWING VALVES AFFECTED.

Mitral	Pure stenosis: males 10, females 20 =	30
	Pure incompetency: males 21, females 15 =	36
	Combined stenosis and incompetency: males 1, females 13 =	14
		80
Aortic	Pure stenosis: males 3, females 3 =	6
	Pure incompetency: males 4, females 3 =	7
	Combined stenosis and incompetency: males 27, females 6 =	33
		46
Mixed aortic and mitral lesions: males 9, females 7 =		16
Mixed mitral and tricuspid lesions		4
Tricuspid.—Pure incompetency		3
Pulmonic.—Stenosis (?)		1

foramen ovale or of the inter-ventricular septum. An account of the case was published in the *Glasgow Medical Journal*, July, 1888. The statistics further show the great preponderance of affections of the mitral valves, there being 80 cases of pure mitral lesion, as against 46 of pure aortic. It is generally believed that the mitral valve suffers most from having to bear the strain of the ventricular systole; but this applies only to cases of rheumatic endocarditis. Of the 80 mitral cases there were 55 with a history of acute rheumatism or of rheumatic pains, while of the 46 aortic only 27 had such a history. The table further indicates a great majority of females affected with mitral disease, the respective numbers being 48 females and 32 males, which may be accounted for by the greater prevalence of rheumatism among the female patients, as indicated above. The large number of cases in which pure mitral stenosis occurred is also worthy of note. The ages of the patients with pure mitral disease are given in the following table,

D. AGES OF CASES OF PURE MITRAL DISEASE.

Age.	Males.	Females.
1 to 10	0	2
11 to 20	4	10
21 to 30	10	13
31 to 40	2	10
	16	35
41 to 50	10	7
51 to 60	3	5
61 to 70	3	0
71 to 80	0	1
	16	13

which also shows the greater liability to mitral disease that females lie under up to the age of forty, thus accounting for the greater frequency of cardiac disease in females in the first four decades, as already pointed out.

When attention is directed to the cases of pure aortic lesion, the first thing that strikes one is the comparative infrequency of cases of single lesion, as contrasted with the number of cases of single lesion of the mitral valve. Yet the fact that six cases of pure aortic stenosis were observed seems to me to indicate a larger proportion than might have been expected, considering the well-known infrequency of that as a lesion by itself. As was to be anticipated, most

E. CASES OF AORTIC DOUBLE MURMUR.

Age.	Males.		Females.	
Under 21	1		0	
21 to 30	2		2	
31 to 40	6	24	2	8
41 to 50	11		4	
51 to 60	7		2	
61 to 70	4		1	

of the aortic cases presented the double murmur. The disproportion between the sexes is extremely striking, and is also brought out in the annexed table, which takes account of all the double aortic murmurs met with, whether purely aortic or combined with mitral disease. From this it will be seen that, between the ages of thirty-one and sixty, there were 24 males as against 8 females, a disproportion due, I believe, to the fact that males are so much more liable

than females to disorders of the valves arising from strains. This may be inferred from the history of these cases; of the 24 males, 12 had no rheumatic history, 5 had had rheumatic pains, and 7 had had acute rheumatism; while of the 8 females, one had no rheumatic history, 2 had had rheumatic pains, and 5 had had rheumatic fever.

In contrast with the great frequency of valvular disease may be mentioned the fact that during the period under survey only three cases have presented themselves in which pericarditis was suspected, exclusive of cases in which pericardial adhesion might have been present. In one of these there was pericardial effusion along with endocardial mischief, and the case proved fatal a few days after being seen. In two others there was a suspicion of pericardial friction. It is to be supposed that, in the stages of friction and effusion, cases of pericarditis are too ill to undertake the exertion of a visit to the dispensary, those conditions generally coming on in the midst of an acute attack of rheumatism, and not developing out of the indefinite seizures that frequently give origin to valvular disease.

Symptoms.—I do not propose to discuss the well-known symptoms of cardiac disease, but I wish to direct attention to a few points in regard to these. The first is the absence of severe or even of any symptoms in many cases—a fact which was emphasised in that remarkable paper which Sir Andrew Clark read at the Brighton meeting of the British Medical Association.[2] Many of my cases did not spontaneously complain of symptoms suggestive of cardiac disease, but in the great majority direct inquiry elicited a history of some cardiac symptoms or indications at a past date. Giving a much more liberal interpretation to what may be regarded as indications of cardiac affections than was done by Sir Andrew Clark, I find that in only 24 out of the 150 cases could absolutely no history of symptoms be obtained. In these and in many others the valvular mischief was discovered through examination of the heart being practically made a part of the routine to which patients are submitted.

Among the less common conditions suggestive of cardiac origin I would point out such as hæmaturia, of which there were two cases, and enlarged and painful spleen, of which there was one case, these being all regarded as of embolic origin. The only other embolic lesion noted was hemiplegia, of which there were seven cases, who were either suffering from that when seen or had a history of previous seizures. Besides these it may be noted that in one case melæna was a prominent symptom, and in three epistaxis. In one case an aortic lesion was associated with painful cramps affecting both legs and the left arm, which at first I was inclined to suppose might indicate embolism, but further observation tended to that idea being discarded. In three the disease was associated with fits, in one with purpura hæmorrhagica, and in one with herpes zoster.

Prognosis.—The question of prognosis resolves itself into a determination of the duration of the disease. Now, in the class of patients with whom we are dealing there is great difficulty in discovering when the cardiac disease originated, the great majority of them being quite ignorant of the fact that any such disease was present. Some were able to tell that the heart had been said to be affected at the date of some previous illness; but generally reliance had to be put upon the date of a rheumatic attack and the date of origin of symptoms as guides in determining this point, and it was found that the history was more clearly obtained in mitral lesions, and especially stenosis, than in any others, from the frequency with which hæmoptysis occurred as an early symptom. In regard to this relation to rheumatism, however, it must be borne in mind that, perhaps not unfrequently, cardiac valvular lesion develops, not at the time of a rheumatic attack, but some time afterwards. It must also be premised that the cases were but rarely followed up to a termination, so that the actual duration could seldom be determined.

In 41 cases, or 27 per cent., the disease had in all probability lasted five years at least, and in 22 of these for ten years or more—viz., 7 aortic (6 double murmur, 1 pure regurgitation), and 15 mitral (6 stenosis, 8 incompetency, and 1 the combined lesion). These figures tend to confirm the teaching of Dr. Gairdner, that mitral lesion (perhaps especially mitral stenosis) is the form of valvular affection which is most compatible with prolongation of life.

(To be concluded.)

[2] British Medical Journal, Feb. 1887.

ON A CASE OF

UNUNITED FRACTURE OF THE RADIUS SUCCESSFULLY TREATED BY THE GRAFTING OF RABBIT'S BONE.

By A. F. McGILL,

PROFESSOR OF SURGERY IN THE YORKSHIRE COLLEGE, AND SURGEON TO THE LEEDS INFIRMARY.

THE treatment of ununited fracture of one of the bones of the forearm has, as far as I know, always been unsatisfactory. The reason is not difficult to find. In performing the usual operation of resection, it is necessary to remove portions from the end of each fragment, and it is then impossible to get the two portions into apposition. If the radius is broken the ulna prevents apposition, and if the ulna, the radius. To overcome this difficulty it has been proposed to cut down on the unfractured bone and remove a piece corresponding in size to the gap left by the resection. The bones being then wired there seems to be no reason why union should not occur. I have treated one case in this way, but the result was unsatisfactory. When the case which is the subject of this paper came under my care, it occurred to me that it was advisable to follow the line of treatment first suggested by Dr. MacEwen in a case of destruction of the shaft of the humerus from acute necrosis—viz., the building up of new bone by the transplantation of bone fragments. The fragments in my case were taken from a young growing rabbit. The following are the notes taken by Mr. Kellett:—

J. N——, aged twenty, was admitted into the Leeds Infirmary, under the care of Mr. McGill, on March 9th, 1889, suffering from an ununited fracture of the right radius. In February, 1888, he fractured his right forearm; the fracture was compound, the wound being on the radial side. Through the wound the broken ends of the radius protruded. The ulna united perfectly, but the fragments of the radius would not join. Three months after the accident a surgeon exposed the ends of the bone, refreshed them, and wired them together. The wound healed, but the fragments did not unite. On admission, the radius was found to be fractured at the junction of the lower with the middle third. Over this position is the scar of a perfectly healed wound about two inches and a half in length. The two fragments of the radius are absolutely ununited, the utility of the forearm is much impaired, flexion of the fingers and adduction of the thumb being most imperfect. On March 19th, an Esmarch's bandage having been applied, Mr. McGill made an incision two or three inches in length in the situation of the old scar. Having exposed the ends of the bone, he found that there was no sign of union, and that the two fragments were rounded at their extremities and covered by a thick membrane resembling periosteum. This was removed by means of a file, and bone tissue was thus bared. When this part of the operation was complete, an interval of about three-quarters of an inch was left between the fragments. In the meantime a rabbit, six weeks old, had been killed, and small portions, one or two lines in length, had been chiselled from its femur. With these the interval between the fragments was filled up, thirteen pieces being inserted. The bones were not wired together. The skin wound was stitched up tightly with numerous catgut sutures. No drainage-tube was used. Firm pressure was applied by means of salicylic wool and bandages, and the forearm was placed on an anterior splint. The elastic tourniquet was not removed till the dressings were applied. On March 29th, the tenth day after the operation, the wound was dressed for the first time. There was no suppuration and very little discharge; the wound had healed, except a small superficial spot. The wool dressings were continued till April 16th, when there was slight irritation of the skin; they were consequently discontinued. The patient left the hospital on April 27th with the bone firmly united. In August he was shown at the meeting of the British Medical Association, when the injured arm was as useful as the other.

Leeds.

BRISTOL MEDICAL SCHOOL.—The annual dinner will take place at the Montague Hotel on Tuesday, Oct. 29th, F. P. Lansdown, Esq., in the chair.

CHLORALAMIDE.

BY D. R. PATERSON, M.D., M.R.C.P.

TWENTY YEARS have now passed since Liebreich introduced the hydrate of chloral to the notice of the medical profession as a trustworthy and efficient sleep-producing agent. In that time its fortunes, like those of all new remedies, have fluctuated greatly. From the outset the marked hypnotic power possessed by the new drug, standing out, as it did, in such bold relief, led in an incredibly brief period to its recognition as a remedy of the utmost value. Scarcely, however, had twelve months gone before it became known that chloral exerted a powerful influence on the circulation, and reports of cases presenting alarming symptoms, and not infrequently ending in death, soon rendered imperative the exercise of the utmost caution in its administration. Since that time many substances have striven to displace it; most of them, indeed, do not affect the blood-pressure or heart, but none of them command its somnifacient power. Therapeutists are still in want of a hypnotic which shall at once be efficient and safe, and it is with the hope of achieving this desirable end that Professor von Mering has brought forward the latest claimant for consideration, to which he has given the name of chloralamide. Chloral formamide or chloralamide is a synthetical product derived from chloral anhydride CCl_3CHO, and formamide CHO,OH_2, and has the formula $CCl_3CH<^{OH}_{NHCHO}$. It forms colourless crystals, and is said to be soluble in nine parts of water and in one and a half parts of 96 per cent. alcohol. The taste is mild, slightly bitter, but not astringent, while the aqueous solution which ought to be produced by a temperature not exceeding 140°F. is stable. Neither the alcoholic nor the aqueous solution is altered by the addition of nitrate of silver or weak acids. On the other hand, the caustic alkalies readily decompose it, the alkaline carbonates more slowly. As a consequence, chloralamide cannot be given in alkaline solutions, but may be administered in weak acidulated ones. Experiments have shown that its physiological action is on the higher cerebral centres in the first place, the lower being only slightly affected, and that much later. Kny[1] injected frogs with ½ gr., which produced after twenty-five to thirty minutes a drowsy state, in which the reflexes were considerably diminished, though not abolished. In the course of two or three days the animals had fully recovered. Doses of 25 to 45 gr. given to rabbits by the stomach induced after an interval of twenty to twenty-five minutes a deep sleep of from ten to twelve hours' duration, from which the animals awoke quite lively. In one instance a rabbit, thirty-five minutes after a dose of 25 gr., lay fast asleep on its side, twitching only on strong irritation, the heart beating powerfully, and the respiration being deep, regular, and twenty-four in the minute.

With the view of testing the efficacy of the new remedy, I have given it in fourteen cases of insomnia, including simple sleeplessness and that resulting from phthisis, heart disease, enteric fever, &c. These trials were all carried out in hospital patients. Each case was watched by the nurse previous to and after the administration, the duration and the character of the sleep being noted, while the patient's statements were compared with these data and checked. The doses ranged from 15 gr. to 45 gr. dissolved in warm water, the addition of a few drops of rectified spirit increasing very materially the solubility, which is hardly as great as the figure given above. I may say here that several observations were made on the temperature, pulse, respiration, and urine, with a negative result. Taking first the results in simple insomnia, we have four cases in which the drug was given, two of them being above sixty years of age. In one instance—an old woman of sixty-four, who had not slept for some time, and used to spend the night sitting up in bed—30 gr. produced on consecutive nights, after an interval of from thirty to forty minutes, a tranquil sleep of eight and nine hours respectively. On both occasions there was some giddiness on awakening, while on the second morning, in addition, she felt sick and remained drowsy during the forenoon. The dose being then reduced to 15 gr., sleep did not result on an average earlier than from half an hour to an hour and a half. It lasted, however, nearly eight hours, and was free from any of the former unpleasant after-effects; in fact, after taking half-a-dozen doses, she stated her appetite was much better than it had been for some time. A man sixty-two years of age, convalescent from an attack of jaundice, and complaining much of resting badly at night, received 30 gr. on several occasions. A sleep of eight hours on an average ensued in from forty to seventy-five minutes after administration. The sleep was unbroken and very sound, and he declared it removed the dull headache from which he had been suffering. Here the drug was used on alternate evenings, and clearly showed its beneficial effect. In a woman aged fifty, 30 gr. doses were followed by from seven to eight hours' sleep, and disappearance of a paroxysmal cough which was very troublesome. After the first dose there was next morning a feeling of sickness, but this, however, was not observed on any subsequent occasion. The fourth case was a man who had been carefully watched, and was absolutely sleepless for some days after his admission to hospital. Doses of 15 gr. to 30 gr. induced from two to four hours' rest on several occasions, and were sufficient to break, as it were, the sleepless habit.

Its influence on the insomnia associated with phthisis I found, on the whole, satisfactory. A night's rest of from six to seven hours frequently resulted from doses varying from 15 gr. to 40 gr. In a girl of eighteen, who had slept but indifferently, 30 gr. induced after thirty-five minutes a nine hours' unbroken sleep, from which she awoke with a clear head and fresh. In two out of the three cases of phthisis in which it was tried there was present, besides moderate insomnia, copious night sweating. The effect in checking this most troublesome and exhausting symptom was marked in both cases. Thus, in a man of forty years of age, who had had profuse night perspiration and indifferent sleep, 30 gr. shortly after his admission gave him the first dry night he had had for some time, besides affording him a fair rest. On the following evening the drug was omitted. He slept very lightly, and was quite wet in the morning. The administration of 40 gr. of chloralamide the evening after gave him an unbroken sleep of nine hours, and he awoke perfectly dry. During the following afternoon he fell asleep for an hour and perspired very much. The efficacy of chloral hydrate in similarly influencing the night sweating of phthisis was pointed out some years ago, I think, by the late Professor Hughes-Bennett. This action is one which has received little or no attention. It is more general than is supposed, and is certainly possessed to a considerable degree by somnifacient agents, and I can fully confirm the statement of Böttrich,[2] that one of the most recent of our hypnotics (sulphonal) is very often an efficient remedy, in doses of from 7 gr. to 10 gr., in checking profuse sweating, whether in phthisis or pyæmia. According to Hagen and Hüfler,[3] chloralamide has in some cases no action on the insomnia of phthisis, while in others it produces considerable general malaise.

The results obtained in two cases of heart disease were encouraging, and would compare favourably with those of any other hypnotic. Doses of thirty grains in a man suffering from aneurysm of the aorta gave fair rest, easing the pain and relieving the cough. There were no disagreeable accompanying effects, the patient bearing the drug well. In a case of emphysema and dilated right heart with orthopnœa 30 gr. had little or no influence; 45 gr. induced slight wandering and a feeling of intoxication, which did not, however, last long. Two nights after 45 gr. were again given, and this time sleep was much more sound, and none of the unpleasant symptoms of the previous evening occurred. Later on 60 gr. were exhibited, producing within twenty minutes a sleep of six hours. Beyond a somnolent tendency during the whole of the day following, no untoward effect was observed. The restlessness and delirium of enteric fever were treated by this drug in two cases. In a strongly built man who had been ill for some time quantities of 30 gr. and 45 gr. produced feelings of sickness and dryness of the mouth on awakening. The amount of sleep obtained, however, was very satisfactory. In a case in an early stage smaller amounts (15 gr. to 30 gr.) materially quieted the delirium and procured a tranquil night. In neither of these two cases was there any influence on the pulse. In a case of Bright's disease where the sleep was seriously

[1] Therapeutische Monatshefte, Heft 8, 1889.

[2] Therapeutische Monatshefte, Heft 3, 1889.

[3] Münchener Medicinische Wochenschrift, No. 30, 1889.

disturbed by almost constant headache, for which several remedies had been tried, 45 gr. led, after the space of thirty minutes, to a sleep of eight hours and a half—"the best night's rest he had for many a day." The effects were here tested on alternate evenings. After the third dose (30 gr.) giddiness came on, and the patient, getting out of bed, staggered about the ward as if he were drunk. All next day he felt so heavy and "queer" that he declined to take any more of the substance. Insomnia and restlessness resulting from pain were little, if at all, influenced by chloralamide. In two cases—one suffering from disease of the ankle with starting of the foot at night, and the other from dysentery with cramp-like pain in the abdomen,—doses of 45 gr. caused, indeed, sleep, but which an attack of pain readily broke.

From these few observations it would appear that the new hypnotic is not altogether free from some of the disadvantages attending those already in daily use. Doses of 30 gr. and 45 gr. have been followed by giddiness, feeling of sickness, dryness of the mouth, and even slight delirium—symptoms which, though not alarming, are certainly disagreeable, but which seem to be inseparable from the action of almost all our sleep-producing agents. A comparison of the action of chloral with that of the amide shows that the latter is not so rapid, sleep coming on half an hour to an hour after its administration; whereas after chloral it often results in fifteen minutes. This slight disadvantage, however, is more than compensated for by the almost entire absence of action which chloralamide has on the circulation. Thus Kny[4] has shown that, while the introduction of chloral hydrate into the stomach of a rabbit will produce a fall of 50 mm. to 80 mm. in the blood pressure, chloralamide administered similarly or by intravenous injection does not cause more than 17 mm., a figure which may be reached in normal sleep. This makes the drug an invaluable agent where we have to treat sleeplessness resulting from, or co-existent with, cardiac mischief or other diseases where the circulation is in any way affected. In one of the cases cited above—emphysema and dilated right ventricle—as much as 60 gr. were given with good result, and no bad effect on the heart. Hagemann and Strauss[5] cite three cases of valvular disease where doses of 30 gr. induced tranquil sleep without producing any untoward effect on the pulse; while Reichmann[6] has shown by a series of pulse tracings that chloralamide—in contradistinction to chloral hydrate—is without influence on the circulation. This manifest absence of action is explained by Kny on the supposition that the drug is split up slowly by the free alkali of the blood into chloral hydrate and formamide—the depressing effect of the former on the circulation being counterbalanced by the latter, like all bodies of the NH_2 group, stimulating the vascular centre in the medulla and increasing the blood pressure. Sulphonal, likewise, has very little injurious influence on the heart, but Schwalbe[7] and Ewald,[8] amongst others, have shown that it is of little or no value as a hypnotic agent in insomnia resulting from heart disease, the latter reporting that he "had seen little or no success from the use of sulphonal in the sleeplessness of organic cardiac disease, especially in valvular affection, fatty heart, arterio-sclerosis, emphysema, &c." The dose recommended by von Mering is 45 gr., while, in a recent advertisement by an English firm, the quantity given is as much as 60 gr. These amounts, however, are too large to begin with, more especially if the patient is a female or has been ill for some time. Usually 30 gr. to 45 gr. suffice in the case of a man, while 20 gr. to 30 gr. will give satisfactory results in a woman. In experiments carried out by Alt,[9] 60 gr. produced in two strong healthy women severe giddiness, symptoms of intoxication, with great excitement, and in one great nausea and retching. Chloralamide has no action on the digestive organs, and the appetite remains unimpaired. That this drug will be a valuable addition to our therapeutical armamentarium is undoubted. More extensive observation is, however, required to fix its position more definitely. So far as can be judged from the published reports, we are justified in considering that as a hypnotic it has proved itself efficient, but whether equal to chloral remains as yet doubtful; while its freedom from injurious action and the safety with which it can be administered give it a claim which merits our highest consideration.

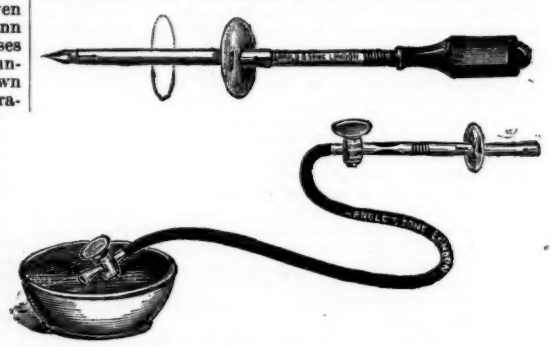
Cardiff.

[4] Loc. cit. [5] Berliner Klinische Wochenschrift, No. 33, 1889.
[6] Deutsche Medicinische Wochenschrift, No. 31, 1889.
[7] Ibid., No. 35, 1888, p. 725.
[8] Berlin. Klin. Wochen., No. 25, 1888, p. 516.
[9] Ibid., No. 36, 1889

AN ANTISEPTIC EVACUATING TROCAR AND CANNULA FOR HEPATIC ABSCESS.

By W. C. BROWN, M.D.

THE surgical treatment of so-called tropical abscess of the liver has until now been confined to the adoption of one of two methods—either to attempt evacuation of the pus by the aspirator, or to cut down on the abscess cavity, lay it freely open, wash it out with an antiseptic and drain. Both methods are faulty in theory and unsatisfactory in result. A cavity in hepatic tissue that has been evacuated by the aspirator cannot heal up without the secretion of more pus in the very act of granulation and contraction, and for one case of hepatic abscess that is successfully treated by this method twenty have to be reaspirated again and again, and the great majority of these have finally to be incised and drained. It may safely be said that when we have a large abscess to deal with, aspiration is utterly useless in itself, and, by the waste of time that it occasions, is, generally speaking, a dangerous procedure. In very small localised abscesses it is probably the best treatment; but these cases are so difficult of diagnosis that they are almost beyond the range of practical surgery; and I find it impossible to endorse the opinion of many surgeons that it does a patient no harm whatever to run an aspirating needle at random here and there through his liver in search of an abscess. Treatment by incision has been more successful and satisfactory, but it also has its drawbacks. One of the principal dangers, and one that has



so far been underrated, is the escape of pus into the peritoneal cavity. A considerable experience of cases of pyæmic hepatitis following dysentery leads me to believe that unless the abscess forms actually on the surface of the liver, there will be no peribepatitis, and consequently no adhesion. Case after case of large abscess of the liver has come to my notice in which there had been no external inflammation whatever, and where the peritoneum was absolutely free. Any incision into liver tissue in instances of this sort must be fraught with the gravest danger. But the most serious complication that surgeons in the tropics have to contend with is the frequency with which the wound becomes septic, in spite of the most careful and repeated washing out of the cavity. The peculiarly absorptive property of hepatic tissue, and the low pyæmic condition of the patient, combine to make this the most fatal complication of an operation which, in itself, is by no means a serious one. With a view to lessen these dangers, and more especially the latter, I have designed an instrument to evacuate the pus antiseptically, and to maintain efficient drainage afterwards until the cavity contracts and closes. Its principal feature is that the cannula continues to act as a drainage-tube, and that by means of a shield in which it slides stiffly it can be shortened daily without removal.

The method of use is as follows:—The existence of pus

having been demonstrated by an exploring needle, and the skin having been cleansed, the trocar and cannula, after being soaked in a 1 in 2000 solution of perchloride of mercury, are passed into the abscess; the trocar is then slowly withdrawn so as to allow a stream of pus to follow it and fill the cannula. The long indiarubber tube, which has been previously soaked and filled with the same solution, and which has both its stopcocks closed, is then screwed on to the end of the cannula while the pus is flowing. The cannula is then carefully adjusted to its proper length by means of the sliding shield, which is securely fixed to the side of the patient, a piece of gauze soaked in perchloride solution packed round the cannula, and a light dressing applied. The free end of the tube is then fixed into a receptacle containing perchloride solution and placed at a convenient height by the side of the bed. Both stopcocks are now opened and the pus drains freely into the receptacle. The solution in this ought to be changed frequently, care being taken before removing the tube from the solution to close the lower stopcock. A piece of glass is inserted in the nozzle of the tube, so that it can be seen at a glance if the pus is flowing freely or not. If it is not, suction at the end of the tube will generally overcome the resistance which its own syphon action has not sufficient power to remove. As the diameter of the tube is about a quarter of an inch this will rarely occur, and though a tube of this size will occasionally give rise to some discomfort as the bulging of the side lessens and the ribs become closer, in the great majority of cases it is tolerated without any difficulty. The flow through the tube does not, of course, go on continually, but the syphon action keeps an exhaustive pressure on the cavity, which is sufficient to keep it from being distended with pus, and has a beneficial action in promoting its granulation and contraction. As the cavity lessens in size the cannula is daily shortened in its shield without removal, and the abscess is thus kept quite aseptic until the cannula can be removed altogether. (See preceding figures.)

Messrs. Arnold and Sons, of West Smithfield, London, have taken great pains in the construction of the instrument, and have succeeded in laying before the profession an apparatus which, it is hoped, by its simplicity and effectiveness, will much decrease the difficulties and dangers of an operation for hepatic abscess.

Penang.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. MARY'S HOSPITAL.

CASES UNDER THE CARE OF DR. BRAXTON HICKS.

THE first of these cases is one in which the excessive loss of blood at the periods was due to a definite local cause, "a localised granulation growth," the origin of which was obscure. That the loss of blood which had been going on was excessive was evidenced by the anæmic condition of the woman when admitted. Without actual inspection of the interior of the uterus after dilatation of the cervix a definite diagnosis could not have been made, in the absence of any history pointing to the occurrence of an abortion; whilst the dilatation gave access to, and permitted removal of, the morbid condition on which the hæmorrhage depended.

CASE 1. *Severe uterine hæmorrhage; removal of granulation growth; cystitis; recovery.*—Mrs. ——, aged forty-six (?), was very anæmic when admitted to hospital, owing to repeated and severe uterine hæmorrhage, mostly at the monthly period. The uterus was found to be bulky, but the os not patent. The os and cervix were dilated by sponge tent, and there was found a rough, granulated surface raised about a quarter of an inch from the surface on the anterior wall, measuring about an inch and a half in diameter. This was scraped by the curette down to the natural level by Dr. M. Handfield Jones, after which perchloride of iron was applied to the surface. There was only slight hæmorrhage during the operation, and none after. Some slight tenderness was felt over the region of the uterus, but in a few days this passed off. But about this time an attack of cystitis came on, and the pain in passing urine produced paroxysms of unusually acute nervous distress, she being of a highly sensitive temperament, which defied very large doses of opiates and other anodynes. After trials of all kinds of sedatives, Dr. Hicks was anxious to have the bladder explored by the cystoscope to see if possibly any extension of disease from the uterus might have taken place, or if an abscess had broken into the bladder. This was carried out by Mr. Page, but nothing could be detected indicating disease or abscess. The peculiar condition found inside the uterus resembled much that of epithelioma, but by the time of this exploration of the bladder, the size of the uterus had become nearly normal, nor was any swelling detected between it and the bladder. With all this negative evidence, Dr. Hicks considered that probably an excoriated condition of the neck of the bladder and the urethra was the cause of the pain. He therefore applied perchloride of iron to the canal, and, after two or three minutes, washed the bladder and urethra out with plenty of water (thus removing the application). Some little distress was felt, but the severity of the pains and the nervous paroxysms were gone, and she continued quickly to improve, leaving the hospital at the end of two months. After the use of the curette there was no sign of blood from the uterus, not even the ordinary period. The granulated surface removed by the curette resembled much that in which an early ovum has been implanted; but there had been no sign of pregnancy, though that would not be proof that an early abortion had not occurred.

Dr. Braxton Hicks[1] has frequently drawn the attention of the profession to the intermittent contractions of the uterus during pregnancy, and the important aid which the observation of these contractions may give in the diagnosis of abdominal tumours, especially those accompanied with amenorrhœa. The short account of Case 2 gives confirmation to the idea that these normal intermittent contractions (coming on commonly every five to twenty minutes) become irregular in character when the patient suffers from chorea; but the contractions do not appear to be more violent.

CASE 2. *Chorea, with irregular action of the normal intermittent contraction of pregnancy.*—A young woman was admitted into the obstetric ward, supposed to be pregnant, suffering from a marked attack of chorea. It appears she had had an attack during childhood, but this had long since passed off. She had menstruated regularly till about four months before admission, and on examining the uterus Mr. A. Hanson, the obstetric officer at that time, found that organ extending nearly to the umbilicus, but soft and natural. On the next day, on examining the abdomen, a firm, hard, pyriform mass was found on the left of the umbilicus, rising rather above it. There was little to be felt of anything like the condition of the day before, but the pyriform mass was prominently to be felt beneath the parietes in the position stated. The next time she was examined, three days afterwards, this firm pyriform mass had vanished and the uterus was of normal shape, but alternating in density during the examination. A few days after this the same variation of density was found, but the form of the uterus changed, one side becoming firm and prominent, while the other was soft and smaller; then the prominent portion relaxed and the other portion became firm. She went out of the hospital, and on her return in a fortnight the uterus was found to have somewhat increased in size, but the irregular action continued, though not to the marked extent as on Dr. Braxton Hicks's first visit in March, 1889.

NORTH LONDON CONSUMPTION HOSPITAL.

A CASE OF PHTHISIS IN WHICH THE FATAL RESULT WAS DUE TO PULMONARY EMBOLISM; REMARKS.

(Under the care of Dr. EVERSHED.)

THIS case is interesting as one in which pulmonary embolism probably caused death by asphyxia. It is a question in the majority of cases of this character whether

[1] THE LANCET, vol. i., 1888, pp. 65, 113.

the embolism has proved fatal from syncope or from asphyxia; the symptoms here were more consistent with the latter view, and the extensive disease of the left lung made it probable that for some time it had been almost useless for respiratory purposes. As is well known, a portion of thrombus detached from a vein of the lower extremities is the commonest cause of pulmonary embolism. The conditions favouring the formation of such blood clotting were present in this patient, and the remains of a clot found in the right femoral vein. For the notes of the following case we are indebted to Mr. Moriarty O'Brien, late house physician:—

M. V—— was admitted in July, 1887. She presented the usual appearance of a person suffering from phthisis in its early stages. The account she gave of her family history was very indefinite—that is to say, it was impossible to fix an hereditary taint. She said she was born in London, but had lived on the Continent for the greater part of her life, travelling about, her husband (an Italian) being a valet. Her last abode was Paris, and it was thence she came to the hospital. She had been in good health until twelve months previously to her admission. Her illness began with a slight cold, with cough, &c. The doctor whom she saw in Paris told her that she was suffering from bronchitis. She did not, however, improve under treatment, but gradually got worse, and eventually was admitted into the English hospital in Paris. During her illness she had cough all the time—often very troublesome at night. She had gradually lost flesh, suffered from increasing breathlessness, night sweats, &c. She had always been able to take her food, and never had diarrhœa. Catamenia had been regular. On admission, she was tall, well formed, and stately in her carriage. Her voice seemed natural, but there was occasional huskiness. Her complexion was dark, eyes black and brilliant, skin on exposed parts sallow and bronzed; where covered by clothing, the skin was very fair, and when grasped had a peculiar limp and wet feel. The extremities of the fingers and toes were clubbed, and the lips had a bluish appearance. She became quickly breathless when moving about or exerting herself. Pulse was moderately full, soft, and rapid. On examination of the chest it was found well formed; there was, however, distinct flattening under the clavicles, especially on the left side. There was no expansive movement, the left side seemed almost fixed on causing the patient to inspire deeply; this want of movement was also to be felt; and while the hands were on the chest an increased fremitus was found on the left side. Comparing the percussion notes, a decidedly duller sound was elicited over the left side, and a *bruit de pot fêlé* was heard in the second left interspace. On auscultating, cavernous breathing, with large bubbling râles and pectoriloquy were found over the left apex, with fine crepitations in other parts of this side; the right gave exaggerated breath sounds nearly all over. Nothing abnormal was noticed about the heart sounds. The temperature rose to 102·4° in the evening. The urine had a specific gravity of 1010; there was no albumen. A simple acid mixture was prescribed; the sweats were checked with zinc and belladonna pills, and the temperature reduced with antifebrin.

Under the above treatment, with occasional mild counter-irritation, the patient progressed satisfactorily until the seventh week. There were some slight variations in the weight, but a steady increase on the whole. During the seventh week of her stay there had been some soreness of the throat, with hoarseness and increase of the fever. The parts were seen to be congested. The use of an astringent gargle relieved this, and she recovered her previous good condition, for during the subsequent week—viz., the eighth—she gained two pounds and a half in weight. Early in the following week—the ninth—which was the last week of her stay, she complained of increased dyspnœa. This was aggravated at night. Under the influence of large warm poultices it abated somewhat. Nothing was found in the chest to account for the increased difficulty of breathing. On the following morning the dyspnœa was still marked, and she became suddenly very much worse. She was gasping for breath. No obstruction could be detected in the throat, and air seemed to enter freely. Stimulants were quickly administered, but without result. Within seven minutes from the time she was first seen she was dead.

At the necropsy, made twenty-seven hours after death, on opening the chest the right lung was found non-adherent, and, except for a few tubercles at the apex, seemed free from disease; it was paler than usual. The left lung was adherent all over; it was detached with difficulty from the side. When examined it was found solid and full of tubercles in the lower lobe and simply a multilocular cavity to represent the upper, the tubes containing purulent fluid wherever they remained. The heart was soft and flabby, and, as usual, slightly covered with a soft fat. On opening it, clots were found in all the cavities; the right side was full of a dark clot, which extended to the bifurcation of the pulmonary artery and along the right branch of that vessel, completely blocking it. On breaking through this soft clot a long, branching, and firm worm-shaped clot was found passing along the pulmonary vessel.

Remarks by Mr. O'BRIEN.—Here, then, was the cause of death. The plug existed in the only sound lung. Hence when the vessel was completely blocked death was almost instantaneous. The occurrence of death from this cause in cases of phthisis is not common, though cases have been reported. In this case I believe the clot came from the veins in the right leg, as on opening up the inferior cava some small firm masses were found, and these were also found in the femoral vein.

LINCOLN COUNTY HOSPITAL.

CASE OF EPITHELIOMA OVER UMBILICAL HERNIA; REMOVAL; RECOVERY; REMARKS.

(Under the care of Mr. CANT.)

MALIGNANT GROWTH of the umbilicus, or in its neighbourhood, is somewhat rare, but has been met with both as a primary and secondary affection. When epithelioma affects this part, it usually does so as a primary growth, spreading backwards and rendering it necessary to open the peritoneal cavity in order to thoroughly remove the disease. Thus Desprès[1] found it necessary to remove a part of the peritoneum and subjacent omentum which was invaded in the case of a patient aged sixty-five. Kupper collected eight cases of malignant growth of the umbilicus,[2] and Wulckow[3] and Nélaton[4] have drawn attention to the occasional presence of a scirrhous growth secondary to malignant disease within the abdomen. Nélaton describes this form of growth as frequently resembling that of a collar-stud, presenting expansions externally and on the peritoneal surface. In the following successful case it is probable that the disease resulted in consequence of the irritation of the truss. For the following account we are indebted to Mr. W. H. B. Brook, house surgeon.

H. B——, aged fifty-eight, a widow, was admitted on July 8th, 1889, with umbilical hernia of twenty years' standing, for which she has always worn a truss. She has never had any trouble with it until five months ago, when it became ulcerated. On admission, the patient presented a large flaccid umbilical hernia 9 in. in diameter and pendulous, the tissues over it being extremely thin except where the ulceration was. A little to the right of its centre was a foul cancerous ulcer, 5 in. × 4½ in., oval, with an unhealthy and nodular surface, with everted indurated edges and a hard base. No enlargement of the lumbar or inguinal glands could be detected. On July 17th the new growth was completely removed by a circular incision, half an inch from its margin, through the whole thickness of the hernial sac, commencing at its lower edge. In order to expose as little of the intestines as possible sutures of carbolised silk were put in as the incision was made. The omentum was firmly adherent to, and formed part of, the tumour. The adhesions were ligatured with catgut and divided, a very considerable portion of omentum being removed. The wound, dressed with carbolic gauze under the spray, healed rapidly, leaving only a lined scar, and there was not any material rise of temperature; but the skin over the hernia sloughed a little at the side in consequence of the irritation of the gauze, though this soon healed when dressed with salicylic wool. The patient was discharged on Aug. 26th, there being no return of the growth.

The above case seems interesting from the fact that so large a portion of the abdominal parietes and omentum could be removed under antiseptic precautions with so little reaction, and also the importance of stitching up the wound in such cases, as the tumour is removed, so preventing the escape and exposure of the intestines.

[1] Annals de la Soc. de Chir.
[2] Med. Record, 1876, vol. ii., p. 64. [3] Ibid.
[4] Med. Times, 1861, vol. i., p 67.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Presidential Address.—Acute Lead Poisoning.

THE first ordinary meeting of this Society for the present session was held in the new rooms at No. 20, Hanover-square, the President (Sir Edward Sieveking) being in the chair.

The PRESIDENT delivered a short inaugural address, congratulating the Fellows on taking possession of the new premises. He gave some details of the early days of the Society, and traced its history from its foundation in 1805 until the present time. As evidence of the administrative ability of its founders, he instanced the fact that the code of laws they drew up for its management existed practically unaltered at the present time. The first meetings were held in Verulam-buildings, Gray's-inn, and the Society subsequently found a home in three different houses in Lincoln's-inn-fields, moving in 1834 to Berners-street; the first meeting took place there in 1835 and the last on June 11th of the present year. After having referred to the incorporation of the Society by Royal Charter, and to the institution of the Marshall Hall prize, he proceeded to allude to the scheme which had been mooted to amalgamate the various medical societies into one Academy of Medicine. Though he was unable to propose any practical way of bringing this about, yet he thought that there were many questions of a scientific character, to help in the solution of which the various societies might with advantage co-operate.

A vote of thanks was proposed by Dr. Barnes, seconded by Sir Spencer Wells, and carried *nem. con.*

A paper by Dr. THOMAS OLIVER of Newcastle was then read on the Analytical and Clinical Examination of Lead Poisoning in its Acute Manifestations. The author showed the prevalence of poisoning by lead at Newcastle-upon-Tyne, the home of the lead trade. It was more common in women than in men. Of 135 patients admitted into the Newcastle Infirmary, eight died of acute manifestations; of these, five were females. A rapidly increasing anæmia was one of the earliest symptoms, and it was followed by colic, headache, vomiting, and diplopia or defective vision. In a few days the patient might become convulsed, comatose, and die. The illness might be so rapid that no alterations of the viscera could be found after death, other than a hydræmic condition of the brain. The author discussed the cause of the anæmia in lead poisoning, of the defective vision, and of the brain symptoms, and gave the results of analysis of the urine. Though the kidneys were contracted in nearly all chronic cases, gout was practically unknown among the lead workers in Newcastle-upon-Tyne.—Dr. STEPHEN MACKENZIE thought that the experience of most London physicians would correspond with that of Dr. Oliver. At the London Hospital a large number of cases of lead poisoning were treated. Had Dr. Oliver worked out the ratio of men and women affected to the total number employed? Mr. Corner, the medical officer of health for Poplar, had read a paper at the Hunterian Society, giving a description of an attack of acute lead poisoning similar to that described by Dr. Oliver. He had found that the attacks were more frequent in the winter than in the summer, and persons recently employed were more liable. The predisposition not only affected the individual, but occurred in families. The attack in many cases resembled poisoning due to other agents—sometimes it was like alcoholic poisoning. He related the case of a man who had been only a short time employed; when brought to the hospital he was like a drunken man, giving facetious answers; he was then attacked with convulsions, and was found to have double optic neuritis, but under treatment he made a satisfactory recovery. He had seen other cases which ended fatally, the convulsions being followed by coma and death. No albuminuria was present, and at the post-mortem examination no condition was discoverable showing the cause of death, but Mr. Tidy had demonstrated lead in appreciable though small amounts in various organs of the body. As to early symptoms, he thought anæmia was one of the first, and after that vomiting. He had seen also many cases of optic neuritis in which the patients did not complain of defect of sight; other cases had neuro-retinitis. In London it was frequently seen associated with gout. He had seen an attack of acute gout develop in a patient taking lead medicinally. A question of medico-legal importance was how long the lead line lasted after discontinuance of the drug. He related a case in which a patient had been using a hair-wash and developed double optic neuritis, but there was no lead line on his gums. Dr. Gowers had never seen the line disappear in less than a year, but he himself had heard of it going in a shorter time than that.—Dr. ANGEL MONEY inquired into the association of phthisis with lead poisoning; lead seemed to increase the gravity of the prognosis. Women who worked in lead factories aborted frequently, but the products of the abortion were often the subjects of congenital syphilis. He had found that syphilis and lead poisoning together made a combination difficult to treat.—Dr. BUZZARD had had no opportunity of seeing cases of acute lead poisoning. In chronic lead poisoning one got a considerable number of symptoms referable to intracranial lesion. Had Dr. Oliver met with affection of cranial nerves in acute cases? He had known a man with wrist drop to be seized with convulsions, and these to be followed by total paralysis of one oculo-motor nerve; these nerves were usually spared in lead poisoning. He referred to two cases of paralysis of external ocular muscles, but had never heard of a case in which the whole third nerve was paralysed.—Sir JOSEPH FAYRER related a case he had seen in Calcutta, in which a persistent snuff-taker had poisoned himself by the snuff becoming impregnated with the lead in which it was packed.—Dr. FLETCHER LITTLE asked if sulphuric acid lemonade was employed in the works in the north. He had found that it had a most satisfactory effect in preventing the disease. He related an instance in which the vegetable acid contained in water collected from a peat soil acted on the lead pipes conveying it, and had produced several cases of poisoning.—Dr. BARNES remarked on the frequency of abortion happening in those who worked in lead. French observers found that those who lived at home became contaminated by their husbands and aborted. The influence was either exerted on the ovum as in syphilis, or there was direct contamination from the clothes &c. Lead showed a greater predilection for women during the period of active menstrual life.—Dr. OLIVER, in reply, said that the last two cases he observed died in the summer. He agreed that anæmia was one of the first symptoms, and that vomiting occurred earlier than colic. He had seen the blue line disappear from the gums in three or four months. He had not been able to observe any relation between lead and phthisis. A case related by a French physician, of an autopsy on a child whose mother was a worker in lead, bore out the idea that some of these cases were syphilitic, for an intercellular cirrhosis of the liver was found. He had not observed affection of the cranial nerves, though transient diplopia was seen in one case. He thought the poisoning not due directly to the lead, which was usually found in small quantities, but to some proteid material. The lead acted on the blood-making organs, the liver, spleen, and bones, and produced a toxæmia—a true blood poisoning. As to prophylaxis, the difficulty was to make the people follow the regulations laid down, for they would not take the lemonade provided, nor would they wear the respirators or suits of clothes. A free breakfast had materially diminished the cases of poisoning in some of the works. The amount of uric acid secreted was much in excess of the normal, and every now and then analysis showed that there was an explosive elimination of lead; on the days on which this occurred the uric acid fell in quantity. The age at which women were most frequently poisoned was between eighteen and twenty-three; the men, as a rule, were not affected till later.

MEDICAL SOCIETY OF LONDON.

The President's Inaugural Address.—Non-tubercular and Non-cardiac Hæmoptysis of Elderly Persons.

THE first meeting of this Society for the present session took place on Oct. 21st.

The chair was taken by the President (Dr. THEODORE WILLIAMS), who delivered a short inaugural address. He commenced by expressing a hope that the Fellows of the Society would enter on the work of the 117th session with an earnest wish to attempt, and a strong determination to

achieve, the solution of some of those numerous problems in medicine and surgery which could assuredly be solved by requisite skill and perseverance on the part of the investigator. He next referred to the satisfactory condition of the Society both as regards membership and finances, and then proceeded to review the papers that had been read during the term of his presidency. Great progress had been made with the library, which was now in working order, and it was hoped that Fellows in the future would use it more freely. The President then alluded to the losses that had been sustained by death, paying a fitting tribute to the memory of each of the deceased Fellows. To conduct the affairs of such a Society, which holds weekly meetings, to secure papers of the high standard demanded, to regulate the supply and prevent deficiency at one period of the session and congestion at another, to enlarge and enrich the discussions by inviting those most learned and experienced to attend and to take part in them; to keep in harmonious working the body corporate, and, above all, to maintain the honour and renown of the Society—these were the aims of the President and secretaries, and in their arduous duties they trusted to receive support from the Fellows at large. He appealed to the younger Fellows especially, in whose hands was the future; they might see the day when the Society, joining with other medical societies, would form an Academy of Medicine, furnished with ample powers and supplied with funds to effectually investigate every form of disease and every means of arresting and of curing it. They might see the day when a rising democracy, whose education had been touched with the leaven of the natural sciences, had learnt to distinguish between the clamour of noisy sentimentalism and the conclusions of science, and to value at their true worth all measures which prevented and destroyed disease, and rendered more healthy and more vigorous the English race. They might see the installation of the Ministry of Health, presided over by a distinguished member of the medical profession with Cabinet rank, who, supported by a now enlightened public opinion, would propose and carry through both Houses of the Legislature measures of preventive medicine, sanctioned by all branches of the medical profession. As old men they might even hope to see the result of all this in the cessation of some forms of disease and in the diminution of others, and then in their turn give place to a race of Fellows of the Medical Society, far more vigorous in mind and body, who would meet together to discuss typhoid fever, small-pox, scarlatina, and hydrophobia with the same historical interest with which we at the present day discussed the plague, the black death, and the sweating sickness. Finally, appealing to the Fellows, Dr. Williams said: "You will do well to remember that the council and secretaries are willing and, I trust, efficient, instruments to carry out your decrees, but that the motive force of the Society must come from yourselves. The life of a society is the life of its fellows co-operating for a common purpose, and its activity or apathy depends on their individual exertions. To you belong the glorious traditions of the Medical Society of London; to you falls the heritage of Lettsom, of Fothergill, and of the immortal Jenner. Show yourselves worthy of these, and leave behind you an example which in turn may inspire future generations."

A vote of thanks having been proposed by Dr. Quain, seconded by Sir Joseph Fayrer, and carried by acclamation,

Sir ANDREW CLARK proceeded to read a paper on the Non-tubercular and Non-cardiac Hæmoptysis of Elderly Persons, which appears in full in another part of our present issue.—Dr. ANGEL MONEY asked if the cases differed in any way from those of arterial degeneration associated with absence of elastic tissue in the lungs. Were they more than cases of emphysema associated with arterial degeneration? Or were they cases of arterio-capillary sclerosis affecting the capillaries of the lung only, and not the rest of the arteries of the body? He was inclined to regard the affection as a part of the general process of arterial degeneration occurring in Bright's disease.—Dr. PERCY KIDD had seen cases of this kind occurring in association with general arterio-sclerosis, granular kidney, or gout. It followed from general physiological laws that slight rises of pressure in the systemic arteries were speedily felt in the pulmonary system. Might not this determine the early local disease in the lung?—Dr. QUAIN was very familiar with such cases, which as a rule did well by removing congestion by calomel, and by forbidding the application of ice to the chest, which latter he had never seen do anything but mischief.—Dr. GILBART SMITH was not familiar with the kind of case described. He had seen instances in which there had been multiple hæmorrhages from various organs, but he had never met with an instance of bleeding from the lungs alone.—Dr. ALLCHIN wondered why the hæmorrhage had been so satisfactorily controlled by treatment; if it were due to progressive degeneration, he thought it would certainly have recurred.—Dr. EWART was inclined to regard the affection as a functional one which occurred only with plethoric emphysema.—The PRESIDENT said that attention had been paid to the state of the blood-vessels, but not to the condition of the blood itself. Might not some of these cases be due to hæmophilia?—Sir ANDREW CLARK, in reply, said he could not regard the disease as an arterio-sclerosis, which was a continuous change throughout the bloodvessels, whereas those he had described were discontinuous; in arterio-sclerosis, again, the change was a fibroid one, whereas in his cases it was nuclear. It might be the form of arterial degeneration which accompanied emphysema, but he thought not; for emphysema was common, but hæmorrhage was rare. Nor did he think it was the change associated with Bright's disease, for no structural change could be found in the kidneys. He thought we should beware of regarding clinical medicine as altogether conterminous with pathology; we should recognise and preserve carefully "clinical individualities." If it could be proved that this hæmorrhage was of a distinct kind, then that was a clinical individuality, and would lead to a different treatment. As to why they did not recur, the patients were usually addicted to over-feeding, imperfect exercise, and there was inadequate evacuation of the excreta; when the hæmorrhage occurred, they became frightened and listened attentively to religious physiological counsel, and after this they walked in the ways of physiological righteousness and did not err in those directions again. The changes found in the blood-vessels of the lungs looked exactly like the changes found in the articulations themselves. He was doubtful (unless in extreme cases of mitral stenosis) whether mere pressure could burst the healthy pulmonary bloodvessels; vascular disintegration must be the initial change. He did not think that there was any suspicion of the hæmorrhagic diathesis. With regard to its difference from endo-arteritis, he admitted that the question was a poser; but though there might be the closest resemblance in structural characters, there might yet be the widest difference in clinical signification. Many different maladies might find common structural expressions.

OPHTHALMOLOGICAL SOCIETY.

Presidential Address.—Pathology of Trachoma.—Keratitis from Paralysis of Fifth Nerve.

THE first ordinary meeting of this Society for the present session was held on Oct. 17th, Dr. Hughlings Jackson, President, being in the chair.

Dr. JACKSON delivered a presidential address, which will be found in another part of our impression.

A vote of thanks having been unanimously accorded to Dr. Hughlings Jackson for his address,

A paper was read by Dr. BRAILEY for Dr. THOMAS REID of Glasgow on the Pathology of Trachoma and the Relation of this Condition to the other Forms of Conjunctival Inflammation. The author regarded the occurrence of groups of lymphoid cells at varying depths in the sub-epithelial layer as the essential part of trachoma. These might be ill defined (lymph heaps) or more distinctly bounded (lymph follicles), though never possessing a perfectly defined limiting capsule. Their lymphoid elements were pervaded and supported by a very delicate stroma. Generally there was some infiltration of lymphoid cells around them which might even extend from one group to the next, and so on. Their origin was not a matter of absolute certainty, but the author was inclined, with Michel, to regard them as the dilated ends of the lymphatics of the conjunctiva. These lymphoid groups led to changes in the epithelial layer, the deeper stratum of which might become vacuolated by œdema, so that the individual cells were often extended into a stellate form. Later, many of the cells might become distended and their nuclei pressed to one side, so that the characteristic appearance of goblet cells was presented. These might discharge their contents, leaving their walls standing and their nuclei

attached to their floor, so that, after the throwing off of the condensed superficial epithelial layer, a matter of not uncommon occurrence, the remains of the goblet cells constituted a series of irregular papilliform elevations characteristic of true forms of dry catarrh. Another important change, the development of mucous follicles, might take place in connexion with the goblet cells. When the lymphoid groups, instead of being absorbed, had increased considerably in size, each one, with its covering of altered epithelium, or a small group of them, was apt to constitute a marked elevation of the conjunctiva, separated on each side from its neighbours by a deep depression. The layer of goblet cells occupying these depressions was frequently folded in so as to form a small pouch, which might be much enlarged, so as to constitute a rounded mucous follicle which communicated with a short duct with the conjunctival surface. As above described, these mucous follicles were usually developed between the lymph follicles; but occasionally one and even several small mucous follicles could be seen occupying the centre of a single lymph follicle. Though usually flask-like, they were sometimes more tubular in form, presumably before the discharge of their individual cells, and the consequent accumulation of their contents. Though the lymph heaps or follicles might disappear by absorption, presumably by escape into the lymphatics, they perhaps more often discharged themselves externally by thinning and destruction of the overlying epithelium. There was always to be noted a tendency to softening and degeneration of their central part, as indicated by less definite structure and more feeble capacity for staining. Finally they might, instead of disappearing, become invaded by bloodvessels, and gradually converted into a dense connective tissue, which, situated in the ridge-like or papilliform elevations above alluded to, formed the grey gristly granulations characteristic of the advanced stages of severe trachoma. Careful examinations for bacilli had led to negative results, though the author was disposed to regard the implication of the cornea as a secondary infective process. In follicular conjunctivitis the author found similar lymphoid groups and mucous follicles; also he had determined, by microscopical examinations, that the stage of grey gristly granulations might be reached in the later stages; consequently, he regarded the two affections as essentially one, though he recognised that the vast majority of cases of so-called follicular conjunctivitis might be distinguished clinically from trachoma in that they did not tend to the development of the grey gristly cicatricial tissue. In some advanced cases of purulent ophthalmia he had found lymph follicles, and also in some cases of apparently simple long-standing conjunctival hyperæmia. The essence of purulent and catarrhal conjunctivitis, and also of conjunctival hyperæmia, appeared to be a vascular congestion which might lead to a secondary lymphatic congestion, and the consequent formation of lymph heaps and follicles, whereas trachoma and follicular conjunctivitis were from the outset essentially affections of the lymph follicles. This would account for the occurrence of mixed forms, as in Egyptian ophthalmia, and for the occasional occurrence of one-sided trachoma as a sequence to long-standing conjunctivitis of other forms. In conclusion, the author did not connect the lymph follicles or mucous glands with any of those glandular structures which were rarely found in the normal conjunctiva.—The paper was illustrated by microscopic preparations in the forms of photographs and magic-lantern slides.

The SECRETARY read, for Mr. W. E. CANT, notes of a case of Keratitis from Paralysis of the Fifth Nerve. The patient, a lad aged sixteen, attended at the British Ophthalmic Hospital, Jerusalem, on July 17th, 1888, with complete paralysis of the left fifth nerve. The left eye showed some general injection, and the cornea was diffusely hazy. A history was obtained of an injury by a reaping hook two or three weeks previously, and a doctor who saw the lad two days after the blow had been inflicted found him in a semi-conscious state. There was a small penetrating wound of the squamous portion of the left temporal bone, about an inch above the insertion of the auricle; into this wound a probe could be passed to a depth of rather more than one inch. When seen again on July 22nd, the left cornea was quite opaque, of a milky white colour; there was much general congestion of the eye. He was admitted to the hospital. During the next three weeks the condition of the left cornea became rather worse, and marginal ulceration occurred. The paralysis of the fifth nerve remained complete. The patient then left the hospital, and was not seen again for four months. When he returned the left cornea had partially recovered, but was still generally hazy. The function of the fifth nerve, both muscular and sensory branches, had been regained, but to only a limited degree. Mr. Cant thought the case had been one of direct injury to the whole fifth nerve within the skull, between the brain and the Gasserian ganglion, or at the latter.

The following patients and card specimens were exhibited:—

Mr. LANG: (1) Congenital Coloboma of Iris, with Notch in Lens; (2) Two Cases of Congenital Coloboma of Iris and Choroid; (3) Cystic Formation in Coloboma of Iris.

Mr. QUARRY SILCOCK: (1) Exostosis of Frontal Sinus; (2) Double Proptosis (?) modified Graves's Disease; (3) Probable Sarcomatous Infiltration of Tenon's Capsule.

Dr. ABERCROMBIE and Mr. MARCUS GUNN: A Case of Exophthalmos in a Child with Audible Intracranial Bruit.

Reviews and Notices of Books.

Medical Handbook of Life Assurance. By J. E. POLLOCK, M.D., F.R.C.P., and JAMES CHISHOLM. Pp. 216. London: Cassell and Co. 1889.

THIS book possesses many claims for serious consideration. It is the combined work of a physician who represents three London offices, and of an actuary who has already attracted attention by his writings upon matters connected with the assessment of extra risks. The authors believe that the attainment of greater uniformity of action by assurance companies is much to be desired. Dr. Pollock's views may be taken to represent the practice of the three offices with which he is connected, and they have, presumably, received the approval of his colleague from the actuarial standpoint. Although, according to the title-page, the book is intended for the use of "Medical and other Officers of Companies," the preface widens the scope to include the boards; and later, one chapter at least, that on claims, appears to be addressed mainly to the general practitioner, as it indicates the necessity of care and accuracy in signing death certificates. With regard to the decisions of boards, the authors urge strongly that there should be something like an agreement as to the terms on which lives requiring an addition to the premium should be received. It is of course notorious that, in the struggle for new business, questions of expediency frequently weigh against the report of the medical examiners; but it is equally well known that sometimes an undue timidity of action leads to surprising results, individuals being promptly rejected by one office and accepted with but a moderate addition to the premium by another. Whether such differences are to be attributed to the medical examiners, to the medical advisers, the actuaries, or the board, must always remain a problem. All of these, with the exception perhaps of the first group, have "to appreciate and apply the money value of risks which vary from the healthy standard," hence it must be extremely difficult to attain uniformity of results. Apart, however, from the lack of certainty which is inevitable when proposals pass through so many hands, there can be no doubt that the opinion of the profession has scarcely yet been crystallised sufficiently upon debateable points; indeed, the question of additions to the premium seems still to be in its infancy. Upon prognosis opinions may be very dogmatic, but actuaries demand something more; they look for facts and figures, and in many instances these are still to seek. This the authors distinctly realise, and as cases must frequently arise which cannot be dealt with according to any definite rules, they have collected a hundred typical cases from the practice of certain *unnamed* offices to show how they have been dealt with, and the list has considerable value in indicating both that large extra

premiums may be charged, and also are not unfrequently paid. Broadly, it may be stated that, according to the examples here given, the rating appears to be very much on the side of safety. It would be most interesting, however, to know at some future date the further history of these cases. As it stands at present, this abstract would seem to show that no case can be too bad for consideration, and for its assessment at some price; it may tend to make medical examiners hesitate to recommend that a proposal should be declined, but it is scarcely likely to change the practice of those familiar with the intricacies of extra rating.

The book opens with three chapters respectively devoted to an explanation of the nature of life assurance, of the duties of the chief medical adviser, and of the medical examiner, and these are followed by the more purely medical questions connected with the method of dealing with the various deviations from the healthy standard. It is here that many practitioners will find many useful hints. The authors guard themselves carefully against the risk of becoming too diffuse; bearing in mind that the book is intended as a handbook for occasional reference upon knotty points, they preserve a dignified brevity which presents answers to most questions, while it does not trouble with useless information. They assume that the medical men into whose hands the book may fall are already fully acquainted with the purely technical branch of medicine, and merely require information upon the importance to be attached to abnormal conditions of the heart, lungs, &c., from the life office point of view. Questions of age, of occupation, of obesity, and leanness, receive due attention, and in an appendix space is found for extracts from Dr. William Ogle's valuable Supplement to the Forty-fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. The different forms of medical examiner's report might with advantage have been omitted. The authors can scarcely suppose that the authorities at the offices are unaware of the details in which their reports differ from those employed elsewhere. On the other hand, the medical examiners are required to fill in the reports supplied to them by the office for which they are acting, and will always find these sufficiently irksome without wishing to compare them with any ideal standards.

In spite of the minor points to which exception has been taken, and of some very obvious printer's errors which will be sure to be removed in later editions, the authors are to be congratulated upon having produced a book which from its completeness, brevity, and trustworthiness is admirably adapted for general employment and frequent reference.

The Science and Practice of Midwifery. By W. S. PLAYFAIR, M.D., F.R.C.P. Seventh Edition. London: Smith, Elder, and Co.

THE fact that this work has reached a seventh edition is alone sufficient to show that it meets a want, and that it enjoys considerable popularity with the student. The present edition differs but little from its predecessor. The chief change is the introduction of the obstetric nomenclature decided on by a committee appointed at the International Medical Congress held at Washington in 1887. Several new woodcuts have been added, and greater emphasis has been placed on defective sanitation as a cause of puerperal fever. There are some points, especially in the chapters dealing with the diseases of pregnancy and the puerperal state, which require revision. The author states that spontaneous ascent of the retroverted gravid uterus is quite exceptional. This statement is too sweeping; retroversion is by no means uncommon, while permanent incarceration is comparatively rare. Again, jaundice is spoken of as the result of acute yellow atrophy. This is true of a minority only of the cases of icterus in pregnant women. Careful examination of the placenta and membranes after labour is not insisted upon, and the methods of ascertaining that portions are left behind are not described. With regard to puerperal septicæmia, we read: "The most practical division of the subject is into cases in which the septic matter originates within the patient, so that she infects herself, the disease being then *autogenetic;* and into those in which the septic matter is conveyed from without and brought into contact with absorbing surfaces in the generative tract, the disease being then *heterogenetic.*" This division is far from being universally accepted by obstetricians. The retention of portions of placenta or membranes, and severe injuries to the genital tract, are not necessarily followed by septicæmia, and the opinion is largely held that the decomposition which takes place in these tissues is the result of the introduction of something from without, and unless that something be itself septic, septicæmia does not follow. The results of the use of antiseptics in midwifery go far to uphold this view. Dr. Playfair believes that the poison of the acute zymotic diseases, and especially that of scarlet fever, can produce puerperal septicæmia. Some evidence in support of this view is given, but the whole of the evidence against it, and in favour of the view that scarlet fever "breeds true," which has been published both in this country and in Germany during the last two years, is omitted. Much stress is laid upon the part played by sewer gas in causing puerperal disease, and there can be no doubt of its efficiency in this respect. To place this matter in a proper light, however, much work has yet to be done, and it has to be done, too, under peculiar difficulties, for these cases occur in private dwellings, and it is almost impossible in such cases to eliminate other sources of infection.

OUR LIBRARY TABLE.

The Rotifera or Wheel Animalcules. By C. T. HUDSON, LL.D., assisted by P. H. GOSSE, F.R.S. Supplement and Plates xxxi.–xxxiv. Pp. 64. Longmans. 1889.—The excellent volume on the Rotifera published by the authors in 1886 had only one defect—it dealt exclusively with the British species of Rotifera, though these, as might be anticipated from their minuteness, are easily wafted from place to place, and are as a rule commonly found in other parts of the world. The valuable supplement now published, though thin and small, contains descriptions of all the known foreign species (amounting to about ninety), and upwards of sixty British species which have in the course of the last three years been discovered by Mr. Gosse, the whole making a total of 150 species. Nearly every one of these is figured in the plates which accompany the part. A large bibliography has been added, giving the names of the authors of upwards of 200 works devoted to the consideration of these tiny specks. Mr. Hudson in his preface feelingly bewails the loss of his friend and coadjutor Mr. Gosse, whose numerous and lively memoirs on natural history must be familiar to all lovers of the subject.

Cremation and Urn Burial, or the Cemeteries of the Future. By W. ROBINSON. London, Paris, New York, and Melbourne: Cassell and Co., Limited. 1889.—In this treatise the comparative merits of cremation and burial are once more discussed with considerable fulness. It is not remarkable that the author, a strong advocate of urn burial, should use every effort in order to prove his case, and that the leading argument throughout the book should consist of a catalogue of abuses prevalent under the present system of interment. The desecration and the risk implied in disturbing graves for purposes of reinterment, the grossly insanitary state of many graveyards and cemeteries from

overcrowding, imperfect drainage, or shallow burial, and their influence as causes of offence and illness, are described at some length and illustrated by striking examples. Some of these, indeed, refer to recent occurrences, but it is worth noting that many more are taken from accounts of the heedless practice of past times, and of countries notoriously wanting in regard for hygienic rules. Probably too much is made of the well-known tendency of putrid gases and matters to percolate the liquid soil. It certainly seems to us that the objection urged against the earth-to-earth system on this ground is overstated. There is more weight in the suggestion that much of the land now used for burials might, under another system, be saved for purposes of cultivation. The latter half of the book is occupied with a history of the cremation movement in this country, and with various practical details bearing upon the subject. The work, as a whole, is at once instructive, light, and readable, and will repay careful perusal.

Medical Guide to the Mineral Waters of Royat (Auvergne). By Dr. C. A. PETIT. Pp. 101. London: Renshaw. 1890.—This work gives a fair description of Royat and its bath establishments, apparently more intended for the general than the professional reader. It has the usual failing of these guide-books—that while it enumerates a legion of diseases in which the waters are said to be beneficial, it leaves unnoticed those in which they are likely to prove useless, if not injurious. The medical summary, occupying the last three pages, does not convey much instructive information.

Lavori dei Congressi di Medicina Interna. Publicazione fatta per mandato del comitato ordinatore del Prof. Edoardo Maragliano. Antica casa editrice Dottor Francesco Vallardi, Milano.—This volume is the official report of the proceedings of the first Italian Congress of Internal Medicine, which was held in Rome in October, 1888. It gives the regulations of the Congress and the text of the various papers read at it, and some account of the discussion upon each. Some of the most important of these were mentioned at the time in the columns of THE LANCET.

New Inventions.

LEGGING FOR VARICOSE VEINS.

THIS is an appliance, patented, for the treatment of varicose veins of the leg, and consists of a plate of felt over the inner half, and of a canvas pliable part attached to it and completing the remainder of the circumference. It is secured by means of straps and buckles. The fine felt plate is moulded to the shape of the leg, and slightly stiffened over the course of the veins. Should it not fit comfortably, it is only necessary to hold the felt in front of the fire, which will soften it; after having been moulded it will retain its shape if allowed to cool. "It acts rather as a leveller than by pressure." It is calculated to wear for two years, and may be washed when necessary. This legging is likely to prove useful in the treatment of many cases of varicose veins of the leg. It is manufactured by Mr. Strudwick of Upper Marylebone-street, at the suggestion of Dr. Fisher.

PATENT BANDAGE PIN.

MR. GEORGE GOODMAN, of 82, Caroline-street, Birmingham, has forwarded us a specimen of his patent nickel-silver bandage pin. For this he claims the following advantages: That it is perfectly safe in use, having its two points thoroughly protected; that it is the only pin that can be depended upon to retain its exact position and thus preserve the exact amount of pressure desired; that it has a flat and smooth surface which cannot cause any inconvenience to the wearer or become entangled in the material; that it is practically non-corrosive even in contact with chemicals and moisture. There are two objections, however, which may prevent the extensive use of this pin; these are, the fact that the points tend to diverge or converge when being passed through soft material, and they are more expensive than the safety pins in ordinary use.

SPLINT FOR FOOT-DROP.

I HAVE devised a new Elevating Spring for Foot-drop due to paralysis of the anterior tibial muscles, whether occurring in infantile paralysis or in the paralysis of adults. It consists of a curved rod (B, C) of well-tempered steel, moulded to the posterior outline of the leg below the knee, and more convex posteriorly than indicated in the figure. The upper end (B) of the spring fits a socket in an ordinary transverse leather band (A), buckled round the calf, while the lower end (C) fits a hole in the back of the heel of the boot, where it may either be a permanent fixture or made to extend to a spring catch (D) in front of the heel. A steel plate is embedded in the sole to prevent the latter yielding to the weight of the foot. The spring should form, when not being worn, a more acute angle with the sole of the boot than is shown in the illustration, and its strength should be sufficient to keep the patient's foot at a right angle or less with the leg while walking. The following are the advantages claimed for this splint:—1. First and foremost, its simplicity and durability as compared with the constant renewing of elastic tractors and the frequent breakage of complicated steel springs for foot-drop. 2. Its sightliness; from the spring being placed behind the leg, it is scarcely noticed when worn. 3. Its comfort to the patient in being very light and in not catching the dress, as is the case with other foot-drop splints where the spring is attached to one side of the leg. 4. Lastly, and not its least advantage, is its cheapness. I have employed this instrument for the last two years with gratifying results. It is not only very efficient in children, but it enables adults affected with hemiplegia or paraplegia, who are beginning to walk again, to do so without the toes dragging the ground, and without the leg being forced to describe a semi-circumduction at the hip with each step, which is so distressing to witness. With this splint applied, the foot and leg can be carried directly forwards, to the great comfort of the patient, and with much less fatigue. I have to thank Messrs. Mayer and Meltzer, of Great Portland-street, W., for carrying out my ideas in the designing of this efficient little instrument. BERNARD ROTH, F.R.C.S.

Queen Anne-street, Cavendish-sq., W., Sept. 27th, 1889.

PROVINCIAL SUNDAY AND SATURDAY HOSPITAL COLLECTIONS.—The recent Hospital Sunday and Saturday collections at Basingstoke, on behalf of the Cottage Hospital, Basingstoke, produced, net, £33 15*s.* 8*d.* The first Hospital Sunday collection at Yorktown, Surrey, held on the 13th inst., realised £9 18*s.* 8*d.*, which is to be divided between the Royal Berkshire Hospital, and the Herbert Convalescent Home, Eastbourne.—The Hospital Saturday collection at Newbury, on the 10th inst., amounted to £70 11*s.* 5*d.*, of which ten guineas have been sent to the Newbury Dispensary, three guineas to the Speen Convalescent Home, and £56 18*s.* 5*d.* to the Newbury District Hospital.—The Hitchin Hospital Sunday demonstration, on the 6th inst., on behalf of the Herts Convalescent Home, produced £8.—The Wisbech Hospital Sunday collection, on the 6th inst., for the North Cambs Hospital, amounted to £8 10*s.* 10*d.*

THE LANCET.

LONDON: SATURDAY, OCTOBER 26, 1889.

ON Oct. 31st the Infectious Diseases Notification Act comes into operation. This is a matter of high interest to general practitioners in the metropolis. In other parts of England, Ireland, or Scotland the Act may or may not be adopted. But it takes effect at once, after Oct. 30th, in every London district, which is defined in the Act to mean the City of London, or the parish or district mentioned in Schedule B of the Metropolis Management Act, 1855, for which a local authority is elected. We say it is a matter affecting general practitioners. But is it quite certain that they alone are affected? Doubtless they are chiefly aimed at, and it is they who are expected to give life and effect to this important Act. But Clause 3 says that "*every medical practitioner*" attending on or called in to visit the patient shall forthwith send a certificate, with particulars of the name and patient. We apprehend that Mr. RITCHIE will not be too exacting, and that if he gets a certificate from one medical man in attendance he will not care for more, though he has actually enacted that "every practitioner attending or called in" shall certify.

We should advise every medical practitioner to procure a copy of this Act, to study it for himself, and to accept the duties of it heartily. It is of no use now to kick against the pricks; neither can we see, if the Act must be enforced, why it should not be enforced everywhere. In this locomotive age one place is at the mercy of another, and precautions and restrictions which are exacted in one place should be exacted universally. The public health is not to be secured by laws of partial application, and this is eminently an Act that, if applied at all, should be applied everywhere. The first duty of a medical practitioner which seems to arise out of the new Act is to apply to the local authority of his district for forms of certificate. On the occurrence of any case contemplated in the Act or in any future order of any local authority—for power is given to such authorities, with the sanction of the Local Government Board, to extend the definition and range of infectious diseases to be notified—the medical attendant, as soon as he has satisfied himself of its true nature, is to forward to the medical officer of health for the district a certificate stating not only the nature of the disease, but the patient's name, the situation of his house, &c.

It is interesting to mark the diseases in regard to which the Act requires notification—viz., small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names: typhus, typhoid or enteric, relapsing, continued, or puerperal. The most noticeable omission from this list is that of *measles*. The omission is noted by the clerk of the Metropolitan Asylums' Board, who says that his Board has on several occasions been asked to receive measles for isolation. It would certainly be a great advantage to know the first cases of a measles storm. It might not be so easy to isolate and circumscribe the first cases of measles as of scarlet fever, but the information should be forthcoming. It is of no use doing notification by halves. If it is to be done for the other diseases we have mentioned, it should be made to include measles. The disease is a serious one; it is highly infectious; it has recently assumed the proportions of a fatal epidemic; it disorders the course of education perhaps more than any other disease, and it is one that should clearly be notified. The only other disease whose presence in this list we feel disposed to notice is that of puerperal fever. What is puerperal fever? The Local Government Board should be prepared to give a definition of puerperal fever for the guidance of practitioners? Surely every puerperal patient that has a high temperature is not to be reported to the medical officer of health. Every obstetric physician will recognise that lying-in women are liable to pyrexia which implies no infection and is not of a septic character, and which it would be absurd to notify. The inclusion of puerperal fever cases adds to the difficulty of medical duty under this Act, and it will be a fine point to determine what is to be considered a case within the meaning of the Act. The point will have to be decided conscientiously for himself by every practitioner after a due consideration of all the facts and symptoms of a case.

Speaking generally, the most important suggestion that we can make to our readers as to their duties under this Act is to approach these duties without prejudice, and especially without haste. The Act requires them to certify to the medical officer of health. But they must first certify the cases to themselves. They owe much to the law, but they owe more to their patients; and when so much turns on a right diagnosis of disease, the first duty is to see that this is decided and deliberate. The duty of notification is second to the duty of diagnosis. Nothing in law or reason can excuse haste of diagnosis when it involves notification, and possibly a demand for isolation and removal. Diagnosis is very easy to those who know very little about it; but early diagnosis of the diseases in Clause 6 of this Act is by no means always easy. How insidious typhoid may be for a week or even a fortnight. In a cholera epidemic how fine the dividing line between a bad diarrhœa and the true disease. In times of sore throat it is not always possible to say when diphtheria begins and follicular tonsillitis ends. The early diagnosis of scarlet fever is a nice duty for an experienced practitioner, and even small-pox takes us occasionally by surprise. The great point for our readers is not to certify till the case is clear, and they are fully persuaded in their own minds of the accuracy of their diagnosis. As soon as they are satisfied of the nature of the case, it is their duty to notify, but not an hour before. Having certified the infectious character of a case, it will be well to consider the means of isolation possible in the dwelling of the patient, and to advise him accordingly, not forgetting that the patient is the first care of his medical attendant. We shall all do wisely to give more heed to early and accurate diagnosis; and our educational authorities will do well to hasten such improvements in medical education as will facilitate medical duty to the patient and to the State; the more so as Mr. RITCHIE has procured, at the request of the

Medical Council and College of Physicians, legislation that makes the Hospitals of the Metropolitan Asylums' Board available for purposes of medical instruction.

THE annual commemoration at the Royal College of Physicians of the most illustrious name upon its long roll of Fellows, which took place on St. Luke's Day before a distinguished audience, was entrusted this year to a physician whose polished style (so well known by his work on "Prognosis in Consumption") gave promise that the customary tribute would be gracefully rendered. Nor could his hearers have been disappointed with Dr. POLLOCK'S efforts in this respect, for he presented them with a vivid picture of the conditions under which HARVEY laboured, and the fruits that have been reaped from his discovery of the circulation. It is a well-worn topic, and needs all the art of an orator to present it in a fresh light. For the life of HARVEY is so simple in its details, and his methods of research are so precise and guarded in their exposition, that no one can fail to honour the man who did so much, by example and precept, to open up the path of scientific inquiry. The same story has been told every year in the College for upwards of two centuries, and yet it still bears the re-telling, for the lessons it conveys are imperishable. Their main theme is that of unfolding the secrets of nature by the method laid down by BACON—a method which HARVEY was almost the first to employ,—and in so doing to break away from the traditions of the schools and to liberate free inquiry from the thraldom of superstition. In order, indeed, to realise the magnitude of HARVEY'S work we must, as Dr. POLLOCK was careful to show, understand the conditions under which the student of science laboured in his day. It was a time when the most powerful church in Christendom was already beginning to receive a check. There is no need to attack the Church of Rome on the ground of its special tenets, or its claims to infallibility; but at the same time it can never be forgotten that in its determined opposition to the promulgation of new truth it is largely responsible for the slow progress made in the observation and interpretation of natural phenomena. In spite of all its efforts, however, scientific truths came to be revealed; and it seems almost as if, in the present day, the attitude once taken by the Church towards Science was in danger of being assumed by the latter herself. "Dogmatism," said the Harveian Orator, "is the tyranny of power over mind, of system over independent judgment"; and up to HARVEY'S time "all teaching hitherto had been dogmatic." Now, however, when, thanks to HARVEY and the labours of all the scientists that have followed him, science has gained a firm footing, is there not some risk lest the dogmatism of which Dr. POLLOCK spoke should be exercised in the name of science, with almost as much injury to freedom of thought and inquiry in ultra-scientific departments as had ever been inflicted by the dogmatism of religion upon scientific truth? It is well, therefore, to be reminded, as Dr. POLLOCK did remind us, in a later passage, that the truths revealed by science are not the only truths, and that we cannot by searching find out GOD. One other declaration before leaving this subject ought in justice to be made. It is not the province of the follower of science to judge of the motives that swayed religious bodies in their too successful attempts to stifle free inquiry or to impose on men a limit to their faith. The man of science has enough to do in searching out the secrets of nature without entangling himself in the meshes of theological controversy. So far from there being antagonism between the two provinces of human thought, there should, since there is no ground common to both, be perfect liberty to the votaries of each to pursue their own road in promulgating their own special truths without reference to the other.

HARVEY'S life is an illustration of this view, for he was filled with the religious spirit, and did all his work reverently, seeing GOD in nature wherever he penetrated to new facts. As to his great discovery itself, he would cheerfully have acknowledged his indebtedness to the eminent Italian masters in anatomy, to whom, indeed, some notion of the circulation seems to have been present. In our admiration of HARVEY, we are sometimes prone to claim more for him than he would ever have claimed for himself. But, at least, he crowned the edifice; he demonstrated "by experiment" the action of the heart and the flow of the blood stream into and from its chambers, although it was reserved for MALPIGHI to demonstrate the existence of capillary circulation. Dr. POLLOCK sketched briefly the results that have flowed from HARVEY'S discovery, and the subsequent explanation of the function of respiration through that other "epoch-making" discovery of oxygen by PRIESTLEY and LAVOISIER. These facts form the basis of all modern physiology, and therefore of pathology. With this increase of knowledge, has there been a commensurate gain in happiness and health? To this Dr. POLLOCK replied by referring to the decline in mortality in this country from such diseases as phthisis and the zymotic class; but he also pointed out that the wear and tear of modern civilisation is bringing in its train evils which go far to counterbalance the good thereby attained. The oration concluded by a happy reference to the fact that the strain of all this high-pressure existence falls upon the heart, and that therefore we should apply the knowledge first given us by HARVEY to mitigate the evils thus induced. The warning is needed, and the moral is clear.

WHEN the Contagious Diseases Acts were suspended as to the compulsory examination of women in 1883, and repealed entirely somewhat later, it was resolved, in accordance with precedence, that they should also be repealed in all those colonies where they had been enforced. This has been done, with we believe one or two exceptions, and sufficient time has elapsed to enable us to compare the results of the working of the Acts with those which have followed their repeal. These latter have been so disastrous in India and in Singapore that men in high positions have felt compelled to speak plainly about it. One of these is Sir FREDERICK ROBERTS, who, quoting a statement made to him by the Surgeon-General, remarked that the number of cases of venereal disease in the army had doubled since the repeal of the Acts, and that the nature of the disease had greatly increased in virulence. It was, he observed, hopeless to expect to put down the

evil altogether; all that could be done was to minimise its bad results, and institutes were now being established everywhere for the purpose of trying to keep the soldier out of the way of temptation by providing him with rational amusement and education. His Excellency the Viceroy observed that the Government of India was much indebted to the Commander-in-Chief for his weighty and outspoken statement. Any doubt which might have been felt as to the gravity of the case must have been dispelled by that statement. He advocated the exclusion from camps of women known to be infected, and the provision of hospitals in which they might be adequately treated. He agreed with General CHESNEY that to say that such steps ought not to be taken was tantamount to claiming for a class of diseases, which are probably attended with more disastrous consequences than any other, both in their immediate and remote effects, an immunity which is not claimed for other kinds of contagious maladies. "I do not believe," he said in conclusion, "that such an immunity will be claimed even by those who are most earnestly desirous of discouraging immorality, and I hope public opinion will support us in the reasonable steps which it will be our duty to take in order to carry out within the limits which I have indicated this most necessary measure."

In Singapore there has been even plainer speaking, its insular position making it peculiarly liable to the importation and propagation of these diseases, and Major MCCALLUM, of the Insular Municipal Commission, described the repeal of the Contagious Diseases Acts as "the most cruel and inhuman step ever taken out here." It was unanimously resolved "that a committee be appointed to collect statistics and information relative to the effects of the repeal of the Contagious Diseases Ordinance, with a view to a report being framed and forwarded to Government, by which clauses may be introduced in the Municipal Amending Ordinance under which the practice of prostitution in Singapore may be regulated." A memorial signed by all the medical practitioners among the civil population—Messrs. GALLOWAY, JANSZ, KOEHN, LEASK, and TRIPP—has been presented to the Municipal Commission. It points out the great and increasing injury to the public health that has been inflicted by the abolition of the Contagious Diseases Ordinance, and the consequent withdrawal of all checks to the spread of venereal diseases. It also deplores the virulent type of the disease, and predicts results of the most baneful description, to which it is impossible to see any limit. It applauds the proposed interference of the municipality, and indicates the special causes which make Singapore exposed to these diseases. These are: (1) The preponderance of males among the Chinese who are without domestic relations; (2) the large shipping trade touching at Singapore, including troopships and men-of-war of various nationalities; and (3) the residence of a considerable garrison. To these were added a female population disproportionately small to an unparalleled extent, and the absence of any proper supervision over or check upon the conditions that are producing this constant increase in venereal disease. This memorial, which is extremely well worded throughout, concludes by the statement that in the professional opinion of the memorialists some remedy must be found by those who are responsible for the health of the community. The memorialists also desire to put on record their united protest as professional medical men, responsible to a great extent for the health of the civil population, against the existence of a disgraceful and dangerous state of things, due in great measure to the enforced withdrawal, against the wish of the community, of a legislation that was completely justified by facts, by disease statistics, and by professional opinion and experience. The army, naval, and colonial surgeons, though debarred by their official positions from signing the memorial, expressed perfect approval of it.

THE difficulties surrounding the University of London in its attempts to draw up a scheme to meet the requirements of the Royal Commissioners, to which we adverted in a recent issue, were emphasised most strongly at two meetings held in Birmingham on the 12th inst., and in a letter from Sir J. SAWYER to the *Birmingham Daily Gazette* on the following day. At the conference of the representatives of the provincial University Colleges of England and Wales, held at Mason College, delegates from nearly all the University Colleges were present except from those affiliated to Victoria University, and this important resolution was unanimously adopted:—

"That this meeting, composed of representatives of the University Colleges at Aberystwith, Bangor, Birmingham, Cardiff, Leeds, Newcastle-on-Tyne, Nottingham, and Sheffield, protests strongly against the adoption of any scheme for remodelling the existing University of London which follows the lines of the report of the Royal Commission, on the ground that any such scheme invades the vested rights of the provincial colleges, and, by placing them at a disadvantage as compared with the metropolitan colleges, would, if carried into effect, operate seriously against their future progress and development."

A small committee was appointed to arrange for a deputation to the Lord President of the Council, should he be willing to receive it, in support of this view. The provincial colleges evidently do not intend the "indispensable" condition laid down by the Royal Commissioners for the formation of a Teaching University of London—namely, that its teaching institutions ought to be in or near London—to be acted upon by the existing university if they can prevent it. They still believe that direct association with the latter university would give metropolitan colleges "a position of preference, both in dignity and influence," and they will therefore strenuously oppose any scheme embodying this principle. It was on this rock that the first scheme of reform presented to Convocation by Lord Justice FRY'S Committee was wrecked, and it seems as if a similar fate is to be anticipated for any other proposal on similar lines. Yet if the University of London is to undertake the functions and duties of a Teaching University for London in compliance with the suggestions laid down in the Royal Commissioners' report, this limitation of direct powers to the metropolitan colleges must be unequivocally asserted in any proposed charter of reconstitution. The Commissioners say that "it is sufficient for bodies outside London to have access as heretofore to examination and degrees." A university giving powers to such institutions would not be what is wanted; it would not be a "Teaching

University in and for London." The differences in position between the London and the provincial colleges in a reconstituted university could not be more explicitly pointed out.

The difficulty in maintaining the present standard of the medical degrees in the University of London, whilst satisfying the demands of those who ask legitimately enough for a degree as a reward for students who have honestly gone through a fair curriculum and have passed a satisfactory examination, was referred to at the meeting of the governors of Queen's College, and was regarded as insuperable. Professor TAIT, Mr. MATTHEWS, the Home Secretary (who was present as a governor of the College, but who is also a member of the Senate of the University of London), and Sir J. SAWYER, all deprecated the lowering of the quality and the value of the London degrees, and looked upon them as special distinctions. But, whilst the Professors in Arts and Science were considering a Midland University as a probable realisation of their hopes in the future, the medical authorities were urging an affiliation with a university of less "examinational stringency" than the University of London, such as the University of Durham, as a complete remedy for their present grievances. Affiliation with the University of London is a thing of the past—although Sir J. SAWYER writes as if it still existed in the case of Queen's College—and meant nothing and was valueless even when it had a nominal existence. Affiliation with the University of Durham means a substantial advantage, and in the case of a medical student the practical boon of an exemption from a year's medical attendance and study now compulsory at the Newcastle School of Medicine. If Birmingham students are to have this privilege by affiliation of Queen's College to the University of Durham, we should recommend the authorities of the London colleges and medical schools to apply for a similar privilege, if degrees cannot be obtained for their students on fair terms in the metropolis. If any non-resident students are to have the privileges offered to them which are now in the possession only of those educated at Newcastle-on-Tyne, surely London students, whose clinical opportunities are acknowledged to be unique, would have the first claim. A Teaching University in London and a Teaching University in the Midlands on the lines of the Scotch Universities would solve the difficulties in a more satisfactory manner than such remote and unreal affiliation.

Annotations.

"Ne quid nimis."

ST. LUKE'S DAY AT THE COLLEGE OF PHYSICIANS.

THE Harveian Oration, which was delivered by Dr. James E. Pollock on the 18th inst., was attended by a large number of the Fellows and Members, and some distinguished visitors, including Mr. Justice Denman, Canon Duckworth, Cardinal Manning, and Count Leyden. On the conclusion of the oration, the President, Sir Andrew Clark, Bart., presented the Baly Medal to Professor R. Heidenhain of Breslau, stating, in well-chosen terms, the grounds upon which the medal had been bestowed. The medal was, in the absence of Professor Heidenhain, received by Count Leyden, who expressed, on behalf of the recipient, his acknowledgment of the honour. In the evening about eighty Fellows assembled at the Harveian dinner, which took place in the College. The President was supported by the Archbishop of Canterbury, Mr. Ritchie, M.P., President of the Local Government Board; Mr. Justice Denman, Dr. Peel Ritchie, President of the Edinburgh College of Physicians; Mr. Makins, Master of the Society of Apothecaries; the Rev. Dr. Troutbeck; the Vice-Presidents of the College, and other officers. The President gave "the health of the Queen," and Dr. Quain that of "the Guests," which was responded to by the Archbishop of Canterbury and Mr. Ritchie. Dr. Bristowe proposed "the health of the Harveian Orator." The company afterwards adjourned to the library.

SOME RESULTS OF COMPULSORY NOTIFICATION.

DR. CAMPBELL MUNRO, in recording the death-rate of the Jarrow urban district during 1888 as 17·1 per 1000 living—this being the smallest rate since 1871, when it was 34·7 per 1000— takes occasion to refer to the operation in Jarrow of the compulsory notification of infectious diseases, and for this purpose he contrasts the periods 1871–78 and 1879–88. In the former, when no such system was in force in the borough, the mean death-rate from all causes was 25·2 per 1000; during the second period, when notification was in force, it was 20·8, representing a decrease of 17 per cent. Continuing the analysis as regards the seven principal zymotic diseases as a group, the second period is found to show a decrease of 45 per cent. when compared with the former. And, coming next to individual diseases, he explains that the local Act of 1878 required the notification of small-pox, of the various fevers, and also of cholera, no cases of which occurred during either period. As to small-pox, the rate during the earlier period was 15·31 per 1000, and 0·36 in the second, giving a decrease of 97 per cent. The mean death-rate from scarlet fever in the first period was 17·87; in the second it was 6·72, a decrease of 62 per cent. The mean death-rate for the continued fevers was 7·81 in the first period, as compared with 2·65 in the second, giving a decrease of 66 per cent. And summing up, the decrease in the fatality of the notifiable diseases shown during the second period was 99 per cent. of the total decrease in the zymotic mortality. Diphtheria and measles, which are not notifiable in Jarrow, had unfortunately exhibited an increase during the second period. We imagine that Dr. Munro would be the first to admit that the whole of the remarkable diminution in death to which he refers has not been due to the system of compulsory notification in force during the second period adverted to. Thus, whilst granting, in the case of small-pox, the extreme value of notification as a means to the early isolation of the disease, and the much greater risk to which the community would have been subjected had small-pox cases not been immediately heard of; yet it is well known that whereas this disease was generally rife in the country during the earlier of the two periods, there was no general diffusion of it during the second period; also, with regard to enteric fever, many of the important improvements effected in Jarrow during the last ten years must have materially aided in diminishing the spread of this disease. And, further, diarrhœa and whooping-cough, neither of which is notifiable, have also exhibited a decrease during the last ten years. But, apart from these and other allied considerations, Dr. Munro is obviously justified in making a substantial claim for the system he adverts to, and the descriptions he has given of the uses to which the information acquired by notification is put in his borough prove

how largely immediate measures of prevention have in various ways been applied to the diseases under consideration. Dr. Munro, indeed, claims that the results he has shown form an enduring memorial to the foresight and public spirit of those who, when compulsory notification was but a new idea, were not afraid to adopt the system; whilst they also afford proof of the loyalty of the medical profession who, throwing aside all personal considerations, have acted throughout solely for the benefit of their fellow townspeople.

MEAN DURATION OF LIFE IN LONDON.

DR. CORFIELD, in his report on the sanitary condition of the district of St. George's, Hanover-square, during 1888, we regret to see, uses the term "mean duration of life" in an incorrect sense. He states that his district had last year "an increased mean duration of life." This statement might only signify generally that, as the death-rate was lower, a higher mean duration of life was thereby indicated. When, however, it is further and precisely stated that "the mean duration of life in Mayfair was 73·60 and in Belgravia 52·89 years," it becomes necessary to inquire what is meant by this use of the term "mean duration of life." It is not difficult to guess that mean duration of life is here used to describe the mean age of the persons dying in these registration sub-districts during last year. Mean duration of life is a term which is recognised by all mathematicians and vital statisticians to signify the mean number of years lived by a population traced by the life-table method from birth to death. There is scarcely a more fatal fallacy in the treatment of mortality statistics than that which deals with the mean age at death in a population, as if it were the true mean duration of life, and bases conclusions thereon as to the longevity and sanitary condition of the population. It ought now scarcely to be necessary to point out that the mean age at death of a population depends more upon its proportional age distribution than upon its health condition. A low mean age at death may only indicate that the mean age of the living population is low; and, on the other hand, a high mean age at death may only indicate that the mean age of the living is abnormally high. But for Dr. Corfield's fallacy, we should have deemed it unnecessary again to urge that the mean age at death is absolutely useless, nay, entirely misleading, as a comparative test of health-condition. The very fact that the birth-rate in Dr. Corfield's district in 1888 was but 18·7 per 1000 (against 30·7 in the whole of London), to which attention is called, is sufficient proof of the abnormal character of the population, and of the small proportion of children it must contain. Can Dr. Corfield, moreover, really believe that the average duration of life in Mayfair is more than twenty years in excess of that in Belgravia? Even if the figures had been called by their right name, as the mean age at death in 1888, no useful purpose could be served by putting them out, as we very much doubt if correct statistics would not show that the mean duration of life is fully as long in Belgravia as in Mayfair. Even in the comparison which is drawn between the so-called "mean duration of life" in the district in 1875 and in 1888, we are doubtful whether the conclusions as to the increased longevity in the district are sound. It is stated that the mean duration of life has increased from 46·67 in 1875 to 58·37 years in 1888. It is quite certain that neither of these figures gives any indication of the true mean duration of life in the district; and unless it had been stated how the deaths in the union workhouses were treated in the calculation for those two years, it would be impossible to judge whether the figures fairly represent even the mean age at death of the population belonging to the district in those two years. St. George's, Hanover-square, has doubtlessly, like the rest of London, been liable to a declining death-rate in recent years, but the decrease of its birth-rate has probably been far greater than in other parts of London, and hence a part of the increased mean age at death cannot be credited to improved sanitary condition. It is scarcely necessary to point out that Dr. Corfield's assertion that the "mean duration of life" in the whole of London has increased from 34·24 in 1878 to 41·77 in 1888 is also invalidated by the faultiness of his method.

THE ITALIAN PREMIER ON STATE MEDICINE.

IN his great speech at Palermo on the 14th instant Signor Crispi gave special prominence to what his administration had effected for the sanitary rehabilitation of Italy. "For four years," he said, "there had weighed on Italians the incubus of an epidemic"—cholera, to wit—"which, besides physical suffering and material loss, had induced a moral disturbance, inevitable, perhaps, in a country where hygienic education was still so primitive and so sporadic. It was a prime necessity, therefore, to proceed at once to the sanitary rehabilitation of the State, and we made provision accordingly. We addressed ourselves first to the minds of men, and we prevailed on them to look the enemy in the face as the principal means of overcoming it. With anxious and systematic care we took the sting from present evils, and then we reconstructed laws to obviate their recurrence. Sanitary provisions should impose on the freedom of the individual no restrictions but such as are required for the safeguard of the lives of others. Personal hygiene is on that account one of those salutary measures which we are entitled to exact." In cognate spirit the municipal services were unified and at the same time reformed throughout the Peninsula; while, continued Signor Crispi, "we modified the constitution of the Sanitary Councils, so as to ensure an earnest and an unremitting surveillance over the public health. We restored to its proper centre—the Home Office—the direction of the seaboard lazarettos, and, by furnishing the chief ports of the kingdom with the means of precaution and defence, we established an outpost system to make head against the importation of disease. By decree and by law of favour (*legge di favore*), we assisted the minor communes in carrying out their sanitary rehabilitation—an opportunity of which already more than three hundred have taken advantage. By a modification and extension of the Bill, enacted for the benefit of Naples, the application of which to themselves was craved by some sixty communes, by considerately evoking and approving plans of house-reconstruction (*piani regolatori*) we have brought to the great cities the blessings of effective resanitation." Nor have more strictly medical reforms been neglected. "We have reconstituted," said Signor Crispi, "the whole vaccination service; we have revised the Pharmacopœia; and on the frontier towns, as a safeguard against epizootic invasion, we have brought up the veterinary stations to military efficiency. We have wrought, in a word, the practical consummation of that sanitary code whose fundamental idea will prove not the least title to the love and veneration long earned from all Italians—whether surviving comrades, or of future generations—by that soldier of science, of fatherland, and of freedom, Agostino Bertani. Thus we may pronounce ourselves as on the true path of that sanitary redemption for which, not less than the political, Italy was yearning—a redemption of equal necessity, and certainly not less of a blessing. An Italy sound in a physical sense will yield us those vigorous arms which will fertilise her the best—those hardy constitutions which as living ramparts will prove her strongest safeguard." The "youngest of the Great Powers" is to be congratulated on the enlightened legislation set

forth in these eloquent periods. It will henceforth be her duty to develop, as well as maintain, the sanitary reforms she has effected, and to justify in this respect the position she has earned in the European State-system.

"SOME CONDITIONS OF CHILD-LIFE IN ENGLAND."

AN able (if needless) defence of the Act for the Prevention of Cruelty to Children is contained in a paper just published by Mr. Benjamin Waugh under the above title. The catalogue of cruelties herein briefly summarised is amply sufficient to prove the necessity of such interference between guardian and child as the Act sanctions. We would willingly ignore the existence of the deliberate and pitiless tortures described in these pages did we not know that many such instances of savagery have been only too well authenticated. It is noteworthy that these excesses do not occur with especial freqency where poverty and ignorance might be supposed to have numbed the moral sense of their perpetrators. They appear to be the distinguishing mark of hard and intolerant natures in every rank of life. Anger, the desire for gain, mere brutality, even "fun," have each been assigned a share in their causation, and the process of suffering has gone on, as this paper shows, in the midst of, and untouched by, adjacent religious and other civilising influences, until the arm of the law has intervened on behalf of its helpless victims. The difficulty of obtaining evidence from the occupants of these desecrated homes has now been done away with, and merited conviction has become the more possible. Mr. Waugh is justly forcible in his condemnation of the abuse of infantile insurance, by which "the parent bets a penny a week against the insurer's thirty shillings that his child won't live." He allows too little for ignorance in his condemnation of those who mismanage (often, we admit, wilfully) the feeding of infants, but he will command universal support in his castigation of that purblind charity which grants a passing dole to any idle tramp who bids for sympathy with the misery of some wretched show child. Without prejudice to the reforming power of Christian persuasion, there is need, as he tells us, of the robust and protective righteousness expressed in the Prevention Act.

DRINK MADNESS.

IN the current issue of the *Contemporary Review* a forcible article appears from the pen of Mr. James Runciman, in which he deals with the "ethics of the drink question." Few have had greater opportunities of studying the appalling ravages which drink madness has made in our midst than Mr. Runciman, and still fewer have the power of portraying in all their loathsome hideousness the effects of this foul disease. He denounces as valueless the dry-as-dust statisticians who would by their figures prove either the enormity of the nation's backsliding in respect of drink, or with smug complacency assure us that the revenue returns prove an amelioration of our national sottishness, according as their interests are opposed or in favour of the liquor trade. He is not inclined, after the manner of the temperance rhetorician, to inveigh against the State support of the liquor traffic and hurl invective at the selfishness of distillers and brewers with their *fidus Achates*—the publican. The mild eloquence of the drawing-room zealot who has never tasted alcohol and who preaches to a select audience of total abstainers has no charms for Mr. Runciman. He bids us go forth with him into the dark places of our great city, and see in the brilliant West-end music halls and the drinking hells of Whitechapel the results of drink upon our youth. Nor does the evil begin and end in sapping the growing manhood of our cities. In the homes alike of rich and poor the women have learned the fatal habit of "nipping," and slowly but surely become confirmed dipsomaniacs. It is unhappily too true, as is pointed out in the paper before us, that the vice of drinking, glorified in verse and rendered amusing in prose by our best authors, is sure to form an unholy trinity with betting and unchastity, and as a consequence will sooner or later impair the mental and physical vigour of the individual and impress a taint of which he and his offspring must alike bear the burden. Mr. Runciman does not, however, tell us much in the way of curing the evil; he regards the adult toper as hopelessly incurable, and urges that for the treatment of the young emigration alone offers a hope of reformation. In our daily life we, whether as consultants or general practitioners, perhaps more than any other profession, are brought face to face with the drink question and how to deal with it. The medical man's *rôle* in society is daily growing in the direction of teaching his patients how to avoid disease, and so the great problem of how to grapple with and check the vice of drunkenness must come home to us for solution, and should, we think, occupy a more prominent position in our academics and our thoughts as practitioners than has heretofore been the case.

"ANGLO-AMERICAN VIENNA MEDICAL ASSOCIATION."

A MEETING of British and American physicians was held recently at Vienna to consider the question of establishing an association for the purpose of furnishing all needed information to English-speaking medical men, coming to study in Vienna. A large proportion of those now in the city were present, and it was resolved to start such an association, under the title of the "Anglo-American Vienna Medical Association." A committee of management was appointed, whose chief duty will be to supply information to newcomers on their arrival as to matriculation, medical courses, lodgings, &c., and when necessary, to call meetings of the association. The committee, on the occurrence of vacancies in their number through members leaving Vienna, will fill these up as soon as possible. The office of the Association will be at No. 12, Landesgerichts Strasse. It was agreed that membership should be open to any British or American physician or medical student on payment of an entrance fee of one gulden. The committee expect that towards the end of October the Association will be in working order. Meanwhile letters of inquiry, addressed to the president or secretary, will at once receive attention.

TUBERCULOUS MEAT AT BELFAST.

THE recent memorable inquiry at Glasgow into the necessity for enforcing the destruction of the carcases of beasts subject to tubercular disease, although this may be comparatively limited in extent, has, as we have lately mentioned, excited considerable attention in Sheffield among dealers in meat, and has also within the last two weeks come before the courts at Belfast on more than one occasion. In the first case the destruction of the carcases was ordered. In the second, heard before the magistrates in the Custody Court, on Oct. 11th, the bench refused to give an order for the destruction of the carcases, on the application of the corporation, through Mr. Spiller, who stated that although the flesh was to all appearance good, tuberculosis was found to be present in the lungs and livers of the animals. Mr. Eaton, in delivering the decision of the bench, said that he was not inclined to give such a decision as would have a ruinous effect upon the cattle trade of the country, and would touch both the farmer and the butcher. If tuberculosis were a serious disease like pleuro-pneumonia, the Government should make provision for the compensation of fleshers. This decision was, however, contravened

in the third case, which is as follows. At the Belfast Police-court on Saturday, Oct. 19th, an application was made on behalf of the corporation, as the sanitary authority, for an order authorising the destruction of two carcases of beef which had been seized in the public slaughter-house a few days before. Great interest was taken in the case by the butchers, professional men, and by the general public. After a food inspector (who had seized the carcases) and a veterinary surgeon had given evidence, Dr. Burden, Pathologist to the Royal Hospital, proved that on examination he had found both carcases affected with tuberculosis, and that there were bacilli in the liver. Dr. Calwell and Dr. O'Neill also gave evidence that they had discovered tubercular disease in both carcases which they condemned as unfit for food. A veterinary surgeon and a butcher having been called for the defence, the magistrates consulted, and Dr. McGee, who gave their decision, said the Bench looked on this as a very serious matter. The butchers had his sympathy, as they were a respectable body of citizens, and had been brought there without any knowledge of having done injury. They had purchased the animals without the knowledge that they were diseased, and had run the risk of losing the money. However, their interest was a minor consideration to that of the public at large. The magistrates would make an order for the destruction of the carcases. We think the fact that such contrary decisions can be arrived at proves the necessity for an explicit declaration on the subject by the authorities. If it be held that the presence of limited tubercular disease signifies general blood contamination, as may be legitimately inferred from the scientific evidence adduced at Glasgow, that given by the Paris Congress, and in the Departmental Committee, then the practice of condemning the flesh of such animals as unfit for human consumption should be made obligatory, and the country be spared the continuance of a conflict of interests and of magisterial decisions.

AN ERROR IN DISPENSING.

SULPHATE OF ZINC and sulphate of magnesium resemble each other closely, as every beginner in materia medica well knows; but outside the examination room it is not often that they are mistaken. The possibility of error is so fully recognised that they are usually kept far apart and carefully labelled. It is only in student days that laborious efforts are made to distinguish them by the relative moistness, by their adherence to the sides of the bottle, and other minute differences. The taste is characteristic, but this is not generally felt to be a very desirable method of distinction. With insufficient labelling, however, and with unskilled dispensing, mistakes may occur, and such an error recently formed the subject of a serious inquiry by the Birmingham Board of Guardians. Three bedridden old women in the workhouse were one evening taken very ill with vomiting, and it transpired that they had been given some "stock mixture," which should consist of Epsom salts and peppermint. It appeared that this had been compounded, not by the dispenser, but by an old man known as "the bottle washer," who was not a paid officer but a pauper. He had confused two barrels containing respectively Epsom salts and sulphate of zinc and alum, and had made up between three and four gallons of mixture from the latter. It is said that the old women soon recovered and were "really nothing the worse for the mistake." It is very fortunate that the effects of sulphate of zinc are so readily apparent and of such little moment, but the action of the Workhouse Management Committee in suspending the dispenser who deputed the old pauper to compound the mixture is distinctly to be commended for its prudence. These are not the only two drugs which closely resemble each other, and it is quite conceivable that, under like conditions, far more serious mistakes might be made, and with drugs which might be absorbed before the detection of the error.

MEANS OF ISOLATION FOR THE SUBURBS OF LONDON.

WE are glad to find that the Metropolitan Asylums Board have taken a step in the direction of limiting the use of their hospitals to the inhabitants of the metropolis; and that they propose asking for the issue of an order of the Local Government Board to give effect to their wish in this respect. One of the grounds they name is a perfectly right one. It is that if they make arrangements with the authorities of outlying districts for the isolation of infectious diseases from such districts, they are practically aiding the authorities of those districts in making default as to the proper provision for the isolation of the inhabitants in the outskirts of London. That such default has been favoured by the action referred to is well known; a number of sanitary authorities around the metropolis having formerly made some sort of arrangement, both with the Metropolitan Asylums Board and with the London Fever Hospital, to receive their cases; and it has generally been found that the arrangements in question have been largely on paper only, and that they have resulted in the infliction of a distinct wrong on the suburban districts concerned. We believe we are correct in saying that the London Fever Hospital has for some time past refused any longer to entertain such an arrangement; and it will, in the end, be for the public good that the Metropolitan Asylums Board should limit the use of their hospitals in the way that has been provisionally decided on. There is, however, one consideration which might fairly be entertained before the final decision is arrived at. It is well known that the Asylums Board, desiring, amongst other things, to avoid large aggregations of infectious patients in populous metropolitan centres, have not hesitated to go outside the area of their jurisdiction for the erection of some of their hospitals; and it appears to us that where a hospital for Londoners has been put up in an extra-metropolitan sanitary district an arrangement, subject to reasonable restrictions, might fairly be made as to the admission into such hospital of cases from the sanitary district in which the buildings are situated. This is a principle which has, we believe, been admitted in regard to some provincial hospitals; and it is one that deserves consideration in connexion with the step that is now in prospect.

REMARKABLE SUICIDE WITH PRUSSIC ACID.

A CASE of suicide by prussic acid was investigated by Dr. Diplock at Hammersmith last week. The unfortunate woman seems to have been the mistress, or rather one of the mistresses, of Alfred Pollard, chemist, of Glenthorne-road. She came, under the influence of drink and in her nightdress, to his premises at 1 o'clock on Tuesday morning, and found a rival woman there. Whereupon a quarrel ensued. The chemist, according to his statement, seized a weak preparation of prussic acid which he kept for poisoning cats, threatening "to do for himself." He gave the bottle containing this fluid to a boy who had come with the deceased, to hold till he got a measure. Whereupon the deceased got hold of it and drank enough to kill her in forty minutes. The chemist protested that he never meant to poison himself, which is probably true enough. But his whole behaviour in this business was disgraceful. He displayed a self-possessed air and described himself as "partly a doctor" to Dr. Alderson, who was not called till the woman was quite dead. Pollard also, with surprising coolness, in the midst of a situation that would have disturbed most men, countermanded the order to the boy to fetch a

policeman. The jury returned a verdict of "Death by misadventure," and properly censured Pollard for putting the poison within her reach, and also for not sending for medical aid after she had taken it. As Dr. Alderson said, if she lived forty minutes, and the poison was as diluted as was represented, there might have been a chance of saving her life with suitable remedies. It calls for the consideration of the Pharmaceutical Society, though we are not sure that they can inflict any adequate punishment on so unworthy an Associate.

SALARIES AND REPORTS OF MEDICAL OFFICERS OF HEALTH.

AN important circular has been issued by the Local Government Board with regard to payments to County Councils out of the Exchequer contribution account, in which attention is drawn, amongst other things, to the effect of Section 24 of the Local Government Act, 1888, on the salaries of medical officers of health who persistently delay issuing their annual reports. That section states that if the Local Government Board certify to the County Council that any medical officer of health, in respect of whose salary a payment would otherwise be due from the County Council, has failed to send in to the Board such annual report and returns as are required of him under the regulations as to his duties, no payment is to be made to the local authority in respect of his salary, but a sum equal to one-half of his salary is to be forfeited to the Crown. The issue of the circular at the present time implies that towards the end of October the time has arrived when those officers who have failed to report on a year which closed nearly ten months ago may properly be dealt with in the way described. But it is to be noticed that the forfeit affects also the sanitary authority, and that County Councils are urged, before making any payments, to inquire as to the receipt of the reports; hence it becomes a question how far medical officers of health whose reports are in arrear will have any claim on their authorities for the moiety of the salary forfeited. It is therefore of the utmost importance that all outstanding reports for 1888 should be sent in forthwith.

GOVERNMENT BY MUNICIPALITIES.

ON Tuesday last the Lord Mayor of the City of London entertained at dinner a number of the mayors and town clerks of the different municipalities and other distinguished guests, including the President of the Local Government Board, the United States Minister, and Dr. Chantemps, the President of the Municipal Council of Paris. Mr. Ritchie's speech will be read with considerable interest by all who have followed the great changes in local government brought about by him. He was able to show that the Local Government Board had aimed not at impeding but at assisting the local governing bodies in their efforts. Speaking of the advantages which had resulted from municipal government, he claimed that municipalities had reduced the death-rate by providing healthy surroundings, a good water-supply, good drainage, and good government in the centres over which they had control, but they had not done all that they might do. He discussed at length the necessity for activity on the part of sanitary authorities in maintaining houses occupied by poor persons in proper habitable condition, and pointed out that where there had been failure the administration, rather than the law, was to blame. At the same time he promised that so long as he was President of the Local Government Board every assistance which could be rendered by the central authority would be given to those upon whom devolved the duty of removing conditions which were prejudicial to the interests of the poor. No one will doubt that Mr. Ritchie intends to adhere to every word he has said, and that so far as in him lies every facility will be given for perfecting the administration which is required for the better government of towns, and especially for improving the circumstances under which poor persons now dwell. There are many engaged in working under the various Acts of Parliament dealing with this subject who see the need for amendments for the purpose of making operative the intentions of the Legislature. Mr. Ritchie's aid will be needed for bringing about the changes which are desirable, and it may be seen from his speech that any well-devised measure will have his support. So far as London is concerned, it is satisfactory to find that the Lord Mayor expressed his preference for a uniform system of government for the whole metropolis; but some doubt will be felt by many whether this could be best obtained, as he believed, by the constitution of a series of boroughs. However this may be, it is probable that the whole subject of metropolitan government will in a few years be brought under consideration, and that a further effort will be made to weld into one the great metropolis. By this time it will be possible to express judgment upon the London County Council, and upon the capacity for administration shown by this body the future of London government must largely depend.

SODA WATER ON DRAUGHT.

A CORRESPONDENT supplies us with some particulars of patents now on view in operation at the Brewers' Exhibition at the Agricultural Hall, which, besides being of great interest, seem likely eventually to be of practical utility to the profession, more especially, perhaps, to the hospitals, where economy is a matter of such importance. "Tubes," as they are now commercially called, which have been so long known to the medical profession for the storage of nitrous oxide gas, are being used for the charging of water, or any fluid such as wine, milk, &c., with carbonic acid gas brought from springs in Germany, where it is given off in a pure and unadulterated state. By simple but very efficient mechanism any filtered water can be made equal to the best waters as sold bottled. Oxygenation, aeration, the charging of waters or wines with carbonic acid gas, can all be done at home at a very small cost, one penny for the charging of the fluid equivalent to one dozen bottles. To hospitals this will be an immense saving. It is virtually soda water on draught. One large place of amusement is said to be about to adopt the process, and will be able to serve effervescing water at almost a nominal cost.

ARTIFICIAL FOOD FOR INFANTS.

DR. ESCHERICH of Munich gave a lecture in the Pædiatric Section of the sixty-second meeting of German naturalists and physicians at Heidelberg, advocating a reform in artificial feeding of infants. He bases his belief in the necessity of such a reform on the errors produced by Biedert's theory, which depends upon the difference between cow's milk and normal human milk. Biedert's view was that all the troubles and diseases occurring in artificially-fed infants were due to the indigestion of the caseine of the cow's milk, causing irritation of the mucous membrane of the bowels. He therefore considered that if the latter were diluted so as to contain 1 per cent. only of caseine, the infant could not possibly take an injurious quantity of this noxious substance. Dr. Escherich considers that this theory and the practice resulting from it have gone far to prevent due care being exercised as to much more important conditions. Such are, according to the lecturer, germs and fermentation in improperly kept cow's milk, the

number of meals, and the quantity of food given at a time in proportion to the capacity of the infantile stomach, the total quantity of nutritious matter and its proportion in the food, and finally the injurious effect which the water which has been added to the food has on the digestion and the metamorphosis of nutritious matter. Dr. Escherich holds it above all necessary to return to physiological principles, and so to approximate artificial feeding as much as possible to the mother's milk, as regards the absence of germs and the number and quantities of meals. The lecturer then pointed out that it is easy enough by sterilisation of small quantities of milk according to Soxhlet's plan to comply at least theoretically with all these conditions, and at the same time to limit the quantity of caseine so as to fulfil Biedert's requirements. This method, which Dr. Escherich calls volumetric, as opposed to Biedert's percentage method, is best applied by Soxhlet's apparatus provided with graduated feeding bottles.

THE ISOLATION OF INFECTIOUS DISEASES IN SALFORD.

WE are glad to find that, as the result of the recent emergency which has arisen in Salford by reason of the prevalence of scarlatina and diphtheria, the long-standing difficulty as to the best method in which to provide for the future isolation requirements of the borough has been solved, the Corporation having decided, on the motion of the Mayor, to approve of the purchase of the hospital site in the Eccles New-road, which was made the subject of lengthened inquiry before Commissioners appointed by the Local Government Board, and for the purchase of which a loan was sanctioned by that Board several months ago. This will give the Corporation an area of thirteen acres in a locality which, according to the evidence brought before the Commission, is likely before long to be one where a hospital will be much needed; for not only is it expected that the Manchester Ship Canal, which runs close by, will bring a large number of working men's houses to the locality, but the canal itself will in many respects form part of that which will practically constitute a port sanitary district.

AN ELECTRIC TYPE-WRITER.

WE have been favoured with a view of an instrument invented and improved by Mr. F. Higgins, C.E., for printing news transmitted by electricity on a sheet of paper in column form, in a manner similar to that of the ordinary type-writer. The type is clear and bold, with proper spaces between the words and between the lines, and is altogether a distinct improvement upon the "tape," which the new instrument is intended to supersede in the transmission of news to newspapers, clubs, and hotels by the Exchange Telegraph Company. The chief advantage of the "Electric Type-writer," with its speed of twenty-five words a minute, over the tape, consists, from our point of view, in the increased facility it offers for easy reading.

EAR DISEASE AND NERVOUS DEPRESSION.

IN the early days of railways fashionable physicians harped loud and long on the distressing effects on the nervous system of long-continued vibration. This fertile source of nerve mischief has been lessened very much of late by vast improvements in the machinery, especially in the matter of breaks and springs. But there are still many neuroses arising from incessant and comparatively speaking violent vibration on peripheral nerves. One of these is ear disease in its common kinds. There cannot be the least doubt that Ménière's disease in not the only neurosis which results from aural mischief. To be convinced that low spirits and inertia with absolute disinclination for work are frequently largely to be attributed to auditory derangement is very necessary for successful treatment. Indeed the depression or melancholia may take the form of paroxysms as definite in their way as those of labyrinthine vertigo. Derangements of digestion, of circulation, and of excretion are powerful in helping the ear mischief to produce nervous symptoms. This is a matter deserving of great consideration in undertaking the treatment of cases whose primary and principal cause is in the organs of hearing.

COMPULSORY VACCINATION IN NEW SOUTH WALES.

THERE seems but little question that the principle of compulsory vaccination is extending, and this especially in English-speaking communities. It has been adopted with varying degrees of stringency in portions of the United States, of Australia, and also in Canada, and now we find that the Board of Health of New South Wales are pressing the Legislative Assembly to pass an Act giving effect to the same measure in that colony. The secretary urges on behalf of his board that compulsory vaccination is "the only known method of successfully avoiding the ravages of small-pox;" that the power of quarantining infected persons is insufficient to prevent the spread of the disease when imported; that such compulsion is in force in the whole of the Australasian colonies, except New South Wales; that where it has been in operation its action has been generally satisfactory in the prevention of disease and death, and that "in no instance has the Act been repealed;" and they finally express their hope that, "in view of the extreme gravity and urgency of the danger to which the colony is subjected, a Bill for the establishment of compulsory vaccination will forthwith be introduced."

THE NEW ENTRIES.

SINCE our last issue we have received the following additional returns of fresh entries for the current winter session (1889–90) at various provincial medical schools:—

	Entire Course.	Occasional.	Total.
Bristol Medical School	25	1	26
Cambridge University*	117	—	117
Liverpool, Victoria University†	43	13	56
Manchester, Owens College‡ ...	75	32	107
Sheffield School of Medicine§ ...	13	2	15
Yorkshire College	33	5	38

* The distribution of Cambridge freshmen intending to study medicine is this year more equally apportioned among the several colleges than in previous years.

† The figures last year were 51 and 9 respectively (total 60).

‡ The following is the exact position at this school:—First year's men, 75; occasional students, 32; dental students, 11; students entered for preliminary scientific course, 51; total 169.

§ The total number of students of all classes at this school is 40.

SCHOOL CLOSURE AND MEASLES AT SPALDING.

DR. MORRIS has given notice that he will move the adoption of the Act relating to the notification of infectious diseases in Spalding. A prevalence of measles has given immediate prominence to the subject; and incidentally it is stated in a report of the proceedings of the Improvement Commissioners that the medical officer of health had advised that the Board schools should be closed, but that the school authorities had not complied with his advice. Since needless delay in this matter often arises from failure to proceed in a regular way, it should be remembered that it is only on the order of the sanitary authority that the school authority is required to act; the medical officer of health's duty in the matter being solely to advise the sanitary authority to order the closure.

CAMPHO-PHÉNIQUE.

A NEW ANTISEPTIC for use in dental surgery—campho-phénique—is, after an extended trial, warmly spoken of by Dr. Flagg of Philadelphia. It is a germicide, an efficient antiseptic, a non-irritant, a decided local anæsthetic, non-poisonous, insoluble in water or glycerine, does not stain or discolour, and is possessed of an agreeable odour, and not disagreeable taste. When required to be used in a diluted form it is mixed with cosmoline or lanoline. He says it will allay the sensitiveness of dentine, and, when mixed with arsenic as an application for destroying pulps of teeth, renders that operation more constantly painless than any other "nerve paste." Should further experience prove that it has this anæsthetic property, it will be of great value. It is also recommended as a surgical dressing for wounds, burns, sprains, intolerable itchings, &c. Campho-phénique is stated to be a definite chemical compound, having a formula $C_8H_{11}O$.

CAN A GUARDIAN OF THE POOR RECEIVE A FEE FROM THE BOARD OF GUARDIANS?

A QUESTION arising out of a fee paid to a medical man, a member of the board of guardians at Hackney, appears to have occasioned considerable feeling in that assembly of the fathers of the parish. It would seem that Mr. R. Smith, the practitioner in question, had received the usual fee for certifying to the insanity of a woman, who was consequently removed to the workhouse. Thereupon, another member of the board objected that Mr. Smith was disqualified for the exercise of his office of guardian, and the question was submitted to the Local Government Board. This authority decided in favour of Mr. Smith, but the guardian who objected refused to be bound by that decision, and intimated his intention of bringing the matter under the cognisance of the Court of Queen's Bench. Should he carry out his threat, an interesting point will arise for discussion; but we hardly think that the opinion of the Department will be over-ruled. The Poor-law Act of 1842 does no doubt provide that a person receiving any fixed salary or emolument out of the proceeds of the Poor rate shall be incapable of acting as guardian of the poor for the parish by which he is paid. But the whole clause in which this passage occurs is aimed at salaried officers engaged in the administration of the Poor-law, and that would seem to be a very strained interpretation of the word "emolument," which would make it cover the case of an occasional fee paid for an occasional service rendered. Still, the doubt exists, and the question has actually arisen. Should it be now determined by legal process, to which Mr. R. Smith is a party, he will have our sympathy, for the lot is a very hard one of the private individual who is made the subject of an experiment in the construction of an Act of Parliament. But, for all that, it will be both interesting and useful to have the question set at rest.

LONDON SANITATION.

AT the weekly meeting of the London County Council last Tuesday, Mr. John G. Rhodes moved the adoption of the report of the Main Drainage Committee, which recommended that application be made by the Council to Parliament next session for the following powers:—"(1) To provide for periodical inspection of drains under houses by vestries or district boards, and for the execution of such works by them as, upon such inspection or otherwise, may in their judgment seem necessary—a clause to be included requiring that means shall be provided for inspecting and testing house drains; (2) to prevent the construction of basements below the level of sewers, except with the consent of the Council; (3) to prevent buildings being erected in places where there are no sewers, except with the consent of the Council." After a discussion the motion was adopted, with the addition of an amendment referring back to the Main Drainage Committee for further consideration and report a recommendation made by that committee, that no notice should be taken of the alleged subletting of work by the contractor in respect of the carrying out of the contract for the construction of sewage precipitation works at the Crossness pumping station. Captain James next moved the report of the sanitary committee, to the effect that the question of public baths and laundries in all parts of London was not one of the questions that pressed most for central administration, that it might be properly deferred until such time as district councils were created, and that the consideration of the question be deferred. Mr. Phillips moved as an amendment that the Council should apply for Parliamentary powers to increase the number of public baths and laundries. After considerable discussion the amendment was negatived, and the report was adopted.

MYXŒDEMA.

DR. KOSMOVSKI recently brought before the Archangel Medical Society an interesting case of myxœdema where not only all the ordinary physical signs of this affection were present, but also mental disturbance. There was, however, no thickening or enlargement of the upper limbs, and the patellar reflex, instead of being diminished, was increased. The explanation suggested of these departures from the typical form of myxœdema was that whereas most of the cases described and brought before medical societies were of long standing and in an advanced stage, in which condition only these cases have usually stood much chance of being correctly diagnosed, this case had developed under Dr. Kosmovski's observation within the previous few months, and so the later developments had not had time to present themselves.

THE INFECTIOUS DISEASES (NOTIFICATION) ACT, 1889.

THE Cambridge Improvement Commissioners, acting as urban sanitary authority, and the Herne Bay local board have already decided to adopt the provisions of the Infectious Diseases (Notification) Act of this year. Such authorities as follow the lead thus given would do well to remember that, with the increased information they will get as to infectious diseases, it will be necessary to make proper provisions for acting on the knowledge acquired, and that adequate means of isolation and disinfection should be provided for this purpose.

SUFFOLK GENERAL HOSPITAL.

WE are pleased to find indications that the disagreement between a section of the governors of the Suffolk General Hospital and the medical staff is in a fair way to be removed. A numerously attended meeting of the governors was held on the 15th inst., the Marquis of Bristol presiding, to "receive the resignation of the medical officers," when, after a prolonged discussion, the following resolution, moved by the Rev. Harry Jones, was carried by a large majority: "That the resignation of the medical officers be not accepted, on the ground that the proceedings at the meeting on Sept. 17th, which have caused them to tender their resignation, were inconsistent with the unanimous decision of the general board on June 18th." It was also understood that another special meeting should be called to rescind the rule to which the medical officers object. There is thus fair prospect of harmony being restored to the institution. The medical officers, Dr. McNab,

Mr. Image, and Mr. Kilner, are to be congratulated on the firmness with which they have resisted the attacks directed against them. It may also be hoped that at the next annual meeting all parties will co-operate to place the institution on the best footing for carrying out the purposes for which it is intended.

THE ROCHFORD ISOLATION HOSPITAL.

A COMMITTEE of the Southend local board have visited and reported on the premises that do duty in the neighbouring Rochford rural district as a hospital for infectious diseases, and the report is strongly condemnatory of everything attaching to the place, including its structure, furniture, and administration. In Dr. Thorne Thorne's official report of 1881 on the Use and Influence of Hospitals for Infectious Diseases, this building was spoken of in terms sufficiently disparaging to have condemned its further use; but if any change has taken place, it seems to have gone from bad to worse. It is to be hoped that some proper and decent provision will be forthwith made for the reception of the infectious sick of this district.

THE SEWERAGE OF MARGATE.

A FURTHER important step has been taken towards dealing with one portion of the scheme of sewerage on which Margate has decided, and which will, it is hoped, by June next secure for that health resort a system by which the whole of its sewage will be carried to the extremity of Foreness Point, and thence discharged into currents that will take it finally away into mid-sea. There was at first some opposition to the scheme which Mr. Baldwin Latham is carrying out, but all are now heartily co-operating with the measures in progress.

NUMBER OF DENTISTS IN GERMANY.

ACCORDING to Dr. Paul Börner's "Reichs-Medicinal Kalender für Deutschland" for the year 1888 there are 16,864 medical men and 514 dentists in practice among a population of 46,840,587 inhabitants in the German Empire, while the number of chemists' shops is 4671, and of hospitals 2737. In face of these figures, it may be truly said that the dental profession is not overcrowded in the Fatherland.

THE GENERAL MEDICAL COUNCIL.

A MEETING of the General Medical Council has been summoned for Tuesday, November 26th, at 2 P.M. The Executive Committee will hold a sitting on the preceding day at 1.30 P.M., in accordance with the standing orders, for the purpose, *inter alia*, of preparing the programme of business for the consideration of the Council.

FOREIGN UNIVERSITY INTELLIGENCE.

Algiers.—M. Planteau of Bordeaux has been appointed to the newly created chair of Pathological Anatomy. M. Treille has been appointed to another newly established professorship—viz., that of Tropical Diseases.

Bahia.—Dr. Nina Rodigues has been appointed Assistant Professor of Clinical Medicine.

Cracow.—Dr. Jos Oettinger, Professor of Historical Medicine, is about to retire. A new surgical clinic has just been opened for the reception of patients.

Genoa.—Dr. Morselle, of Turin, has been appointed Professor of Mental Pathology.

Groningen.—Dr. Koch of Amsterdam has been appointed to the chair of Surgery, in succession to Professor Korteweg.

Königsberg.—The temporary charge of the late Professor Jacobson's Ophthalmological Clinic has been given to Professor Vossius.

Liège.—Dr. Firket has been promoted to the full Professorship of Pathological Anatomy and Bacteriology.

Montpellier.—M. Granel has been appointed to the chair of Botany and Natural History, in succession to the late Professor Martins. M. Imbert has been appointed Professor of Medical Physics, in succession to the late Professor Moitessier.

Würzburg.—Dr. Reichel has qualified as *privat-docent* in Surgery.

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following eminent foreign medical and scientific men are announced:—M. J. Puls, a well-known Belgian entomologist, a pharmacist by profession.—Dr. Landtsert, formerly Professor of Anatomy in the Medico-Chirurgical Academy in St. Petersburg. After retiring from the chair at the end of twenty-five years' service, he employed himself in teaching anatomy at the Academy of Arts.—Dr. Kozloff, who at one time held a professorship in the University of Kieff, where his duties were to teach Pathological Anatomy, Physiology, Anatomy, and the History of Medicine. From 1871 to 1882 he was Medical Inspector in the Medico-Chirurgical Academy in St. Petersburg. For some thirty years he was editor of the *Voyenno-Meditsinski Zhurnal* (the *Military Medical Journal*).

SMALL-POX is stated to have greatly diminished in Chili, owing to the spread of vaccination. In 1880 there were 7254 deaths from this disease; in 1883, 3188; in 1885, 3138; and in 1888 only 1477. The death-rate, however, taken on the whole, is still high, owing to the want of sanitation among the people.

AT the sitting of the Royal Commission on Vaccination on Wednesday, Dr. F. W. Barry was again (the third day) under examination, and it is probable he will be called at the next meeting.

DR. PETER HORROCKS performed Cæsarean section by Sänger's method on Monday last at Guy's Hospital. Both mother and child are progressing favourably.

A CONGRESS of Russian medical and scientific men will be held in St. Petersburg from Dec. 27th to Jan. 7th. It will be divided into eleven sections.

THE death is announced of Mr. Vincent Richards of Goalundo, so well known for his researches on snake poison.

THE first Congress of Polish surgeons has just been held at Cracow.

WASTE OF FISH AND FISH PRODUCTS.

BY J. LAWRENCE-HAMILTON, M.R.C.S.

No. V.

THE alarming, augmenting, avoidable waste of fish and of products made or derivable from fish refuse, together with the waste of immature and of unsaleable fish is a question of national importance. These combined wasteful methods, sanctioned by chronic conventional custom, are factors which tend to increase the price of fish to the consumer, and are a heavy avoidable loss to the fisher-folks of the United Kingdom. In trawling, often the net is brought up without containing a single saleable fish. Whether the unsaleable fish amounts to 50 or 500 per cent. or even more as compared with the saleable fish is a subject upon which fishermen are proverbially reticent. When they do give information on

this point their evidence is so opposite and contradictory that the solution of this topic is not thereby advanced. However, when coasting smacks unavoidably catch nothing better than immature and other unmarketable fish, under a rational economic system, this fish should be used up for *the manufacture of waste products which in the United States of America represent upwards of 1¼ per cent. of the total value of their fisheries.* Excluding the waste of immature and of unmarketable fish, I estimate that upwards of £2,156,900 a year is wasted in the United Kingdom by omitting to work up the waste products of fish after the American plans.

Owing to pressure and other causes, almost all fish caught in the nets are either dying or dead before they are landed into the smacks. British fishermen frequently throw immature and unsaleable fish and fish refuse into the sea. From time immemorial the Chinese and Japanese have profitably worked up and economised the waste products of fish. The Americans boil fish to extract the oil useless for manure, whilst the bones are made into glue and other commercial products, and the remainder is used as manure. The Americans bone and skin their codfish, and pack it in tins; whilst thus making a higher-priced article, they derive extra profit by working up the skins and bones for by-products.

In the United Kingdom valuable waste products, derivable from fish refuse, are usually ignored in every household. Excellent stock or basis for soups can be made from the heads, bones, skins of fish, and of filleted fish, a familiar economy in China, where even sharks' fins often fetch about thirteen pence a pound. A bread of fish "flour" is popular in some countries. English rays are imported to France for making soup; bone earth from fish refuse for manure; albumen from fish blood. A "meat" extract is made from fish; it has no fishy flavour, and is alleged to be better and cheaper than beef extracts. This fish extract mixed up with pea-food, flavoured with herbs and salt, makes a good food-sausage. Herring meal, mixed with starchy food, affords a cheap and excellent food for cows, without giving any fishy flavour to their milk. In some foreign countries domestic animals and poultry are fattened on fish.

The heads, fins, entrails, blood, &c., yield excellent guano. From the skins and bones of fish a strong adhesive cement can be profitably manufactured. The dried skins of the shark, dog-fish, ray, &c., are useful for polishing wood and ivory, and in Egypt serve for the soles of shoes. These fish skins afford a kind of leather called shagreen. The dried skins of flat fish can be used for gloves, "leather" purses, for fining coffee, as a substitute for isinglass, and for artificial baits. The Chinese use painted and varnished fish skins as ornamental lanterns. In Japan wax is made from the skins and intestines of fish. Eel skins serve for whip thongs, and when dressed and dried make braces. In America, cusk and torsk skins have been patented for shoeleather. Siberian peasants clean, stretch, and dry the skin of the turbot for leather bags and as a substitute for glass window-panes. In some parts of Asia the tanned skin of the salmon yields a prettily marked scale-like leather, and ray skins a good imitation of morocco. Imitation porpoise leather is often made from the skins of the seal, walrus, and white whale. The American white fish yield large good upper leather. Indian-ink is obtained from the sepia fish. The roe of the mullet supplies the *botargo* of Italy, and is an ingredient in Indian curries. Besides the sturgeon, the roes of many other fish furnish caviares.

Especially about the middle of February, the decks of boats where cod-fish are killed are actually milk-white with cod-spawn, which should be used for artificially rearing cod-fish, as in Norway. Russian scientists have been specially successful in rearing fish from the roes of dead male and female fish. Mussels, one of the best baits for sea-fish, have often been destroyed to serve as a cheap manure.

RABIES. — The number of dogs in England officially reported during the week ending Oct. 12th as afflicted with rabies was eight, against a similar number in the preceding week. Of these seven were killed, and one died. The distribution was as follows: Sussex (Eastern Division), two; and Essex, Lancaster, Middlesex, Oxford, Surrey, and York (West Riding) one each. No cases were reported from London proper.

LONDON THIRTY YEARS AGO.

THE report for the year 1888, with which the Metropolitan Board of Works has wound up its career, has been made the occasion of a *résumé*, in which that now defunct institution replies to the comments and criticisms which have accompanied its demise by solemnly placing on record the services which in the course of its history it has rendered to the metropolis. Such a narrative can hardly fail to be interesting in no ordinary measure. It is, for example, strange and curious in a high degree to recall now the anarchic condition of London local government so recently as 1855, when the Metropolitan Board was constituted. In the report just issued the picture is strongly drawn. Contemporary testimony to the frightfully insanitary condition of the River Thames and of the slums is quoted from the pages of THE LANCET, and from evidence given by the late Lord Shaftesbury before a Royal Commission, which considered in 1854 the question of the housing of the poor. The description makes one wonder that such neglect of the most elementary principles of hygiene could ever have occurred in a civilised community. The problem of finding adequate room and wholesome dwelling places for the overwhelming population of the metropolis is formidable, and far enough from solution to-day. What it must have been when the river was nothing but an open sewer, and when we were forced to write, "Wheresoever we go, whatsoever we eat or drink within the circle of London, we find tainted with the Thames," it is far from easy to say or even to imagine.

The Board of Works assign the foremost place among the improvements which it has effected to the great work of sewerage and drainage which it has carried out. It is, no doubt, easy to over-estimate the merit of that work. Putting the picture of 1889 beside the picture of 1855, it is most natural that one should be led to exclaim, "What a vast change!" And vast, indeed, it is. But it does not at all follow from that that the reform is complete or the stage attained final. On the contrary, the work which the Metropolitan Board accomplished ought, in our judgment, to be regarded as a mere beginning. The costly and wasteful process of carrying the refuse of London out to sea and casting it away there is wholly unworthy of the science of the day. The historian of the Board narrates with some details the various attempts which have from time to time been made to convert the sewage of London into manure for agricultural use. It is his lot to record of every one of these attempts in succession that they have resulted in disappointment, and the conclusion if not actually drawn is sufficiently indicated that any such undertaking must of necessity be fruitless. We, however, for our part refuse to accept that inference. In spite of all past failures, arising as they have arisen again and again from unfavourable financial circumstances or other faults of management or design, the broad chemical facts remain that this troublesome waste contains highly valuable ingredients, ingredients of which the soil stands in need, and which have to be supplied from other sources at considerable expense. The problem is how to transport it from the place where it is a nuisance to another place where it is a desideratum, and we wholly decline to draw the inference that this problem is insoluble from the meagre data furnished by the unsuccessful attempts to grapple with it which have been recorded by the Metropolitan Board. It may be that considerable alterations will have to be effected in the drainage system which has been elaborated by the Board; it may be that much of the work which it has done has been done upon mistaken lines; but we confidently hope that it will eventually be found that a well-regulated town, even though swollen to the present proportions of the metropolis, can always find upon agricultural land an outlet for its refuse under an arrangement which, while easing the burden of removal, respects the economy of nature.

In perusing this report, we find ourselves more thoroughly in accord with the writer in his comments upon the work of the board in connexion with the preservation of open spaces, and the protection of infant life. Thirty years ago these were subjects which were but little understood, and even

less appreciated. In the interval there has been a great awakening of public interest in these subjects, and a corresponding upgrowth of a sound and just sentiment. This development is faithfully reflected in the present report. It appears that during its career the Metropolitan Board had acquired control over parks, commons, and other open spaces to an aggregate extent of upwards of 2600 acres, and secured their permanent enjoyment by the public against the encroachments of private interest. In the regulation and control of institutions and persons whose business is the custody of children of tender years the record of work done is less satisfactory; but something at least has been accomplished in this direction, and will no doubt afford a starting point for further reform. Upon the whole, this report will doubtless tend to improve the position of the late Board in the eyes of the public, who will the more readily forget the misdeeds which brought about its disestablishment in consideration of the great and undeniable services which it rendered at the time when the local government of London was in the process of making.

THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

The Liberal Arts.—America, Russia, Roumania, Holland, Switzerland, Belgium.

THE time is now rapidly approaching when the great Exhibition must close its doors. For those who have watched its development, its gradual ripening, till it reached the zenith of an unparalleled success, the thought that it will all so soon be over conveys an irresistible sense of melancholy. But a short life well spent often leaves an ineffaceable trace in the world's history, and certainly many years, if not centuries, must roll by before the glories of this Universal Exhibition, held as a pacific celebration of a great historical date, is forgotten. Not only has the whole season been one of unusual material and commercial prosperity, but public health has been marvellously maintained throughout. We have had no epidemics, no exceptional sickness; and this, too, both with regard to the general public and also with respect to the large army of attendants and others who have been present and have worked at the Exhibition. I called at the offices of the British Commissioners, and was there informed that all the English officials and assistants had been remarkably free from illness during their now somewhat lengthy sojourn in Paris. Perhaps the improved methods of drainage, though only applied as yet on a very restricted scale, have contributed to this result. Certain it is that the Exhibition itself has been well drained, in spite of the excessive strain resulting from the extraordinary number of visitors. At the English Commissioners' Office there is an interesting illustration of how a good closet may be constructed in conjunction with the most defective and illogical *tinette filtre* system. It is one of Messrs. Jenning's closets with a *tinette filtre* below. This, however, does not prevent the application of a two-gallon flush. As the solids alone are retained in the *tinette*, it does not matter how much water passes through, and consequently no nuisance has arisen throughout the six months the closet has been in use, for the flush was always sufficient. As I have already explained, the new police regulations authorise the application of this system in the worst-drained parts of Paris, and therefore good results could be obtained everywhere if the population were only intelligent enough to avail itself of the new regulation. Messrs. Jenning, besides draining the offices of the British Commissioners, have a very interesting exhibit of sanitary appliances in the machine gallery. Among other things are closet pans that ensure discharge of the flush from a number of small holes at the back and bottom of the pan, as well as from the rim. This, it appears, the French, who are now making almost every form of closet known in England, cannot imitate. They are not yet perfect enough in this manufacture to make the numerous little holes in the pan. On the inner gallery, immediately above Jenning's show, will be found an old acquaintance with a new name. The Crésyl-Jeyes is a French edition of the familiar Jeyes Disinfectant, which in England has been long known and in very general use. In Germany many scientific researches have been made as to its antiseptic qualities, and there is, I was informed, quite a mountain of German literature on the subject. For the treatment of wounds it is said many German surgeons prefer the Crésyl-Jeyes to corrosive sublimate, iodoform, or carbolic acid. These exhibitors are particularly satisfied with what they term a refined preparation of chaste fluid, and which is known in commerce as the Liquor Antisepticus Jeyes.

Before concluding these notices of the Exhibition I would like to insist on the great good achieved by the Liberal Arts Gallery. This is the western wing of the main building, and here may be seen exhibits appertaining to scientific and artistic progress and study. In this wing there are many galleries, where the various nationalities have their respective sections. The English Section contains the exhibits of many publishers, and among them the large volumes of the *Chemist and Druggist* journal. There is a rich show of photographs and photographic apparatus, and notably J. F. Shew and Co.'s pocket apparatus, which has received the highest award given for this specialty. But there is nothing particularly interesting in the English Liberal Arts Section from a medical point of view. In the Spanish Section, which is our nearest neighbour, there is the cabinet of Dr. Macaya of Barcelona, who exhibits all that can serve to illustrate the prevailing method of vaccination from the calf. This is done on behalf of the Spanish Society for the Promotion of Vaccination. Here also are the exhibits of the Seville Deaf and Dumb School. From the Spanish Section the visitor reaches the French scientific educational exhibits. First among these are the collections from the Collége de France and the Ministry of Public Instruction, including all that is used to instruct students in the natural sciences. By the side of this large subject are the apparatus used in Dr. Brown-Séquard's laboratory. Dr. C. Sappey's anatomical specimens illustrating the lymphatic system in men and animals are beautifully arranged. All that appertains to chemical laboratories will be found in this gallery, as also very elaborate charts, plans, and instruments from the Central Bureau of the French Meteorological Society; these include large meteorological photographs and a daily record of weather forecasts, &c. The chemical scales of Messrs. Collet et Fils, who have obtained the gold medal, are in this section, and there is a collection of most elaborate illustrations, plans, and models of schoolrooms, school buildings &c.; here will be noted the improved French methods of warming and ventilation and the realisation of the principle of a unilateral light. All that appertains to the physical exercise and education of children is here also indicated. M. R. Guimard exhibits ingenious methods of in-door gymnastics which can be applied in any ordinary sitting-room. Weights that can be increased or diminished are raised from the ground by means of a rope that passes over a pulley affixed to a wainscoting, and great facilities are also supplied for in-door trapeze exercise. M. Ernest Lalanne exhibits a wooden horse on which anyone in his own drawing-room can learn how to ride. The horse is life-size. To the bridle and stirrups are carefully affixed weights suspended to pulleys. Other weights, from a framework above, can be made to press upon the chest, back, or thigh of the rider. In this manner are produced artificially all the forces of propulsion which render it difficult for the inexperienced rider to keep his seat. Kicking, rearing, bolting, the various hazards of a ride, can be produced in a moment and at will by this wooden horse, and this in such a manner that to acquire the same experience it would be necessary to ride twenty different living horses. M. Lalanne therefore maintains that the science of riding can be learnt much quicker and more completely on his wooden horse than on real horses. However this may be, the wooden horse certainly supplies an excellent and amusing pretext for in-door exercise.

Proceeding through the Liberal Arts Galleries, the exceptional prominence given at this Exhibition to all that relates to anthropology becomes more and more evident. The Société École et Laboratoire d'Anthropologie, which has very appropriately received the gold medal, has, among other exhibits, a small case of exceptional interest. It contains models of the brains of a number of criminals, and the actual skulls of four most notorious and recent murderers. Three out of the four skulls show a marked protuberance of the under jaw. Marchandon is the best known of these four criminals. In the centre of this wing of the Exhibition there are, on the ground floor,

the lay figures that represent the history of Labour in prehistoric ages, while above them, in a gallery, are the more serious exhibits of Mr. Francis Galton and Dr. P. Topinard. Twice a week Dr. Topinard attends to give explanations. There are also all the instruments used for the scientific measuring and comparing of heads, &c. Specimens of criminal heads of different ethnological types abound on all sides. The public look in wonderment at all these things. The desire to learn is evident among the crowd, and it is a pity that there are not some cheap pamphlets available so that the most uninformed of the visitors might obtain some general idea of the object of these exhibits. This remark is all the more natural as the anthropological exhibits are surrounded by the classes devoted to printing and publishing, and then to photography.

On the ground floor of the Liberal Arts Gallery will be found a great variety of exhibits relating to technical education, including plumbing work. The Chambre Syndicale des Couvreurs et Plombiers shows numerous types of syphons, that indicate the progress made in sanitary science in France during the last few years. Here also are exhibits bearing on the ventilation of mines. The whole of the east side of the gallery is taken up with a most elaborate display of statistical charts, dealing with every subject—population, death-rates, marriages, stammering, colour of eyes, payment of taxes, amount of travelling accomplished, of alcohol drunk, &c. Before leaving the liberal arts a small American Section should be mentioned, where a few things of interest may be found. Among these M. C. A. Frees of New York, who has been awarded a silver medal, exhibits artificial limbs; the Pomeroy Truss Co. shows apparatus for dealing with curvature of the spine, and W. Schott's antiseptic pocket surgical case. There are, finally, some photographs, illustrating all the services of the Bellevue Hospital of New York.

Considering that the American Government officially supported the Exhibition, and granted a subvention, there might certainly have been a much better display from that country. The American Section is undoubtedly poor. The main part of the section is situated close to the Liberal Arts Gallery. There are a number of scent fountains, and it would seem as if perfumery was in very high favour in the States; but chemistry is not represented in any marked manner. There are some druggists who exhibit, notably Messrs. William R. Warner and Co., of Philadelphia and New York. Soluble coated pills is their specialty, and they show a formidable array of bottles containing every sort of combination in the form of pills. Neat little books explain all the formulæ, and are very practical in assisting the physician to find at once the drug he needs. Close by is Fairchild's pepsine in scales, which has obtained the silver medal. This New York firm asserts that its pepsine contains but a slight imperceptible trace of acid, and that it is not adulterated with added peptone, egg albumen, or milk, sugar, and starch. This preparation has consequently won a large patronage. The Cheseborough Manufacturing Company exhibit a great assortment of vaseline applied as soap, as lubricating grease, and also for a great variety of medical purposes. These preparations are all well known, their utility acknowledged, and it would have been strange indeed if in the American Section there had been no vaseline. In respect to novelties, I discovered only an ingenious apparatus very useful for preparing tinctures. It is a conical-shaped screw with large grooves, which gradually presses the substance introduced forwards; the groove becoming narrower and narrower, the liquid escapes from the open side of the screw container, and by the time the pressed substance reaches the end of its journey it is reduced to dry pulp. This aparatus is introduced by the Enterprise Manufacturing Company of Philadelphia.

The Russian Section is reached next, and though this is also a poor exhibit, there are nevertheless some points of interest. The diagrammometre, for instance, is a wonderful mechanical contrivance for statistical work and the calculation of averages. Its inventor, Victor Kozlaw, is a Russian engineer; and, to quote the words of Count Miliatine, Professor, and at one time Minister of War, the apparatus is like "a head that thinks and speaks." Unfortunately its complicated mechanism defies all description; still it can be understood that it is possible to impart by delicate machinery a record on a dial that shall correspond to the curves of a statistical chart, and that such machinery, if satisfactorily constructed, may be the means of mechanically ascertaining averages, probabilities, &c. Giving proof also of great ingenuity is the apparatus exhibited by the Russian engineer, M. Nadieine. This is a method of domestic drainage by which the solids and the liquids are separated, the latter mixed with ash or sand and converted into dry manure. Near the end of the soil-pipe there is a syphon. After the syphon, the pipe widens out in a fan-like shape, resembling a bottle funnel turned upside down. The solids, by force of gravitation, fall down the centre of this cone, while the liquids, by capillary attraction, follow the walls of the funnel or cone, and are received in a sort of gutter that goes all round it. When this receptacle is sufficiently full, it tilts up and discharges the liquids, either into a drain-pipe (by which they flow to the sewer), or into a special reservoir. This action, by a system of counter-weights, causes a drum to revolve in a case containing the dust, ash, or earth, and liberates a small supply of ash, which falls and mixes with the solids. This apparatus has been in use for nearly a year at the station of the fire brigade in the district of Petrowski, and is said to have answered its purpose well. It is undoubtedly a great improvement on the cesspool system, and may work with some effect where the volume of water used is not very considerable. In the Prussian Section there are also several exhibits of plants and herbs used in medicine. These, for the most part, come from Poland, and are in M. J. B. Segall's stall. M. Mattheisen of Moscow, among other articles used in pharmacy, shows the splendid cantharides for which Poland is celebrated; and Dr. de Korab his preparations of helenine, which he maintains is a specific antiseptic for the germ of tuberculosis. Then we have specimens of the warm clothing the Russian climate renders indispensable, notably V. T. Dichko and Sons' woollen felt boots, sealskin top boots, &c.; and Daria Lavrovna Kretow shawls and wraps of goatshair. Nor should mention of the very sensitive rotative thermometer, for which M. Leon Rabinovitch has obtained the gold medal, be omitted, nor the new kitchener, the "Destructeur Brûleur," where all the household refuse is consumed, thus obviating the dustbin nuisance.

The small state of Roumania has some exhibits bearing on medicine, notable the Roumanian medical preparations of Kónya Brothers of Jassy. Among these, however, it is easy to recognise many familiar French preparations, notably the Tamar Indien. Dr. Severan's glass operating tables are very neat and seem admirably suited for the maintenance of the utmost cleanliness. In the Portuguese Section, the Pharmacia Franco Filhos has received the gold medal for its *vinho nutritivo de carne*. Apart from this meat preparation, another Portuguese firm of chemists, Messrs. Roberto da Costa and Co. of Lisbon, have a silver medal, and display a great number of mercurial preparations. Amongst the Spanish exhibits there is an array of tonic wines, specimens of mineral waters, and a special oil for veterinary purposes, prepared by Messrs. Garcia, Marin, and Co., of Valencia.

The Dutch Section is very rich in all sorts of plants from the Dutch Indies and Java, while Van Houten's, with a model cocoa plantation, cocoa trees of natural size, and a number of æsthetic Dutch houses and cottages, where cocoa is dispensed to the million, is a remarkable exhibition. In France, where the preference is generally given to chocolate, cocoa is now becoming quite popular. In the Dutch Section the same exhibitor has a pretty little Dutch cottage, furnished almost exclusively with diplomas and prizes received all over the world. At this Exhibition he has of course no medal, being *hors concours*. Here close at hand are to be found the very interesting exhibits of cinchona bark and of all the parasites that injure the plantations of this indispensable anti-febrifuge. The Dutch are also large manufacturers of warm underclothing, and we have notably Jansen & Tilames, who exhibit "normal" hosiery, apparently similar to that recommended by Dr. Jaeger.

Of the smaller countries the two most progressive seem to be Switzerland and Belgium. The appliances shown which are obligatory in elementary schools for the teaching of physical science denote a very advanced condition of general education. As much may be said for the chemistry of the superior schools. At the same time the large amount of school furniture constructed on hygienic principles, and so as to facilitate the growth of the pupils, demonstrates that health questions are not neglected. In the Swiss Section, Dr. Laskowski's method for preserving anatomical specimens while retaining their natural suppleness is interesting. Human limbs are exhibited. The

muscular tissues, though somewhat dried and shrunk, are thoroughly preserved and flexible. Finally, the relief plan of the Jungfrau (which has obtained the grand prize) and other plans give a graphic conception of the formation of the Swiss Alps and of the health stations situated in these mountainous regions. The pharmacy of Fréd Golliez, from Morat, exhibits articles from Switzerland, and notably a ferruginous cognac that seems very popular.

In the Belgian Section, the charts, statistics, reports, pamphlets, specimen regulations, &c., all denote a country where sanitary science has made considerable progress. There are notably the charts of the Royal Society of Public Medicine. Among the exhibits it may be noted that Dr. Simon of Brussels has obtained the gold medal for his clinical pneumo-dynamic apparatus. Professor Poupart's method of teaching the practice and theory of amputation, with the assistance of lay figures, is interesting. There are, further, a great variety of antiseptic dressings, lints, &c., shown in this section.

It will be seen, therefore, that though many nations have taken no special trouble to be adequately represented in matters relating to medicine or public health, yet, in each section, something may be found that affords interest, and which in a few cases is thoroughly typical of the country of the exhibitor.

Paris, Oct. 17th.

THE ITALIAN MEDICAL CONGRESS.

THE week just closing has been a memorable one for Italian medicine. Signor Crispi's weighty references to State hygiene, which he put in the forefront of his political programme on Monday, were next day followed up by perhaps the greatest medical congress yet convened in Italy—the "Congresso di Medicina Interna"—which held its annual meeting (the second in the series) in the grand hall of the Sapienza. More than three hundred of the profession, including clinical lecturers, consultants, and working practitioners, representing the several schools throughout the Peninsula, were present, while the general public contributed largely to the audience, which included a considerable number of medical students, for whom the railway companies had liberally modified their fares from either extremity of the kingdom to the capital. Professor Guido Baccelli presided, and was supported on the platform by Professors Murri of Bologna, Rossoni of Rome, Maragliano of Genoa, Rattone of Parma, and Cantani, De Renzi, Federici, and Senise of Naples.

The presidential address was in Baccelli's happiest vein. After the customary words of welcome, he congratulated the meeting on the advance it had made over that of 1888, both as to attendance and programme, and then indicated the progress achieved by medicine within the last hundred years. Morgagni cut the first turf, so to speak, of that mighty highway; but his work, exquisite as an artist in the study of nature, restricted itself to the causes and the localities of disease in the sphere of anatomical research. Now the investigation of the etiology of disease has overpassed the province of pathological anatomy, and to-day "in the living and from the living subject are found inexhaustible themes of study." "But," he continued, "it must be confessed that physiological and pathological chemistry have made no such progress as histology and bacteriological cultures. The discovery of micro-organisms themselves no longer suffices us. Leucomaines and ptomaines open up a field of the greatest novelty and difficulty, imposing on the student a far more absorbing task than that presented by pathogenic micro-germs." Dwelling on the distance that divides medicine from the scientific exactitude possible to chemistry and physics, he deplored the exclusive devotion of the best minds to the lessening of that distance, deflecting their energies from the true ground of their application—the clinical. In proof of this he referred to the competitions for medical chairs in the schools, in which the candidates came accredited with every sort of accessory accomplishment without the qualification which was really the central one—clinical knowledge and skill. "I said once," he continued, "and I say it again, that the clinique is the supreme laboratory of experimental human physiology, that the clinique is the school of living anatomy, and that, as handmaids of the clinique, chemistry, microscopy, mechanics, the calculus develop their resources. A true clinician ought to represent, in the knowledge of man, a synthetic force of the first order. He is like the master of an orchestra or like a commander-in-chief—he must know all, and more than all, that the units know, he must be as the multiple to the solos, as the *ensemble* to the components of the harmony. For while ignoring nothing, a clinician makes the appreciation of details subservient to that of the whole, and thus forms his habits and his mental atmosphere, and determines his swift and complex intellectual processes. It is from this that emerges what the lay mind so often admires—his *coup d'œil*, his unerring intuition. And if you ask yourselves what it is that confers such a power, you could not convey it in words. He is like a poet, like a grammarian, who has ceased to remember the rules of prosody and grammar, yet, in writing prose or verse, commits no blunder." Italian medicine, proceeding from old experience to the new analyses, checking and purifying the former by the latter, will place herself on the Via Sacra of truth. "Of this," said Baccelli, "I have the strongest conviction, because she lights her torch at the vestal flame of experimental research, because, in the words of Bacon, she adds to her intellectual resources not feathers to soar, but lead to sound and weights to balance (*non addere plumas sed plumbum et pondera*)." A fine appeal to the audience as a brotherhood in the cause of suffering humanity, and a glowing tribute to the King as an exemplar to all his subjects of philanthropic devotion, formed the peroration of Dr. Baccelli's brilliant and loudly applauded address.

Business began with the joint report of Professors Rattone and Bozzolo on Nephritis, the former discussing its pathogenesis, the latter its treatment. The opinions of previous observers on the origin of the disease were elaborately reviewed, and Professor Rattone, summing up, maintained the validity of the old classification of nephritides into acute and chronic, and showed, as the result of a long series of experiments in which he checked the findings of his precursors, that these maladies are generated by the passage through the kidneys of infective or irritant substances either formed in the system itself or entering from without in the shape of drugs or infections. Professor Bozzolo first set himself to criticise the treatment advocated chiefly in France, by which bloodletting, sometimes in small, sometimes in greater quantity, is practised in acute nephritis, the theory being that the engorgement of the kidneys augments arterial pressure and adds to the labour of the heart. He contended that an ordinary bloodletting can never affect the blood pressure in acute nephritis, while in chronic cases it impairs the reparative powers. Condemning the theory *à outrance*, he passed to other remedies, and objected strongly to diuretics as serving to feed the phlogosis of the kidneys. Warm baths and milk diet were what he mainly recommended—the former for their excitation of the skin to an increase of function, the latter (1) for its diluting the blood and diminishing the density of the urine, (2) for its acting through its contained salts as a mild diuretic, and for its favouring the expulsion of the phlogogenic agents, and (3) for its being a non-irritant food. Professor Baccelli opened the discussion of this conjoint thesis, and was followed by some ten physicians, including Professors Albertone, Maragliano, Giuffrè, and Semmola. To their criticisms (which cannot even be summarised here, but which will be given at length in the official report which the Italian Congress commendably publishes after its sittings) Professors Rattone and Bozzolo replied; and then, in the afternoon, a variety of papers were read and discussed, some of them of special interest, like that of Dr. Petteruti of Naples, in connexion with which he exhibited the "kinesoscope"—a portable instrument devised by himself to register with minute exactness the movements of the several parts of the thorax.

Next day's sitting was in some respects the most important on the programme. Professor Cantani took the chair, from which Professor Baccelli had temporarily retired, to read his elaborate and long-expected memoir on Malaria. Describing its pathogenesis as based on two principal "fulcra"—to wit, the hæmodyscrasia which is manifested in the red globules, and the neuro-paralysis which is revealed in the ganglionic section, he proceeded to show that the palustral infection is a pyrogenic (fever producing) process, but not phlogogenic (inflammation

producing). Then he illustrated the double nature of "perniciosa," as determined by individual diathesis and by the nature of the infection; and from this he went on to describe the complications of the fever, its relapsing and its masked forms. Having concluded the nosological part of his paper, Professor Cantani proceeded to review the microscopic researches made in the Roman clinique on more than three hundred malaria patients in the successive seasons of the year, and showed that in grave cases the physician must not rely on merely negative findings in the blood; while the appearance in it of the endo-globular malaric forms demonstrates indubitably the presence of the infection. Passing to the third part of his memoir, the therapeutic, Professor Cantani, in view of the pathogenesis he had established, proposed the direct introduction of the quinine salts into the blood, injecting them, with the usual antiseptic precautions, into the veins. Nothnagel, he said, had *a priori* declared that the intravenous injection of quinine had the same therapeutic value as the hypodermic; but till the present hour Professor Cantani maintained such injections have never been practised with a curative object; only physiologists, in toxicological research, had injected acid solutions, which in animals, as in the human patient, had had highly detrimental results. The form in which he injected the drug was that of a neutral solution of chlorhydrate of quinine in distilled water, with the addition of chloride of iodine in a physiological dose. He then described the phenomena observed after the injection of at first from 0·15 to 0·30, then from 0·30 to 0·60, and finally of the full gramme. With gramme doses he had the best results; all the accessions were cut short without relapse, and this in five cases of very grave "perniciosa." In those cases which resisted repeated hypodermic injections, the intravenous injection never failed once. The elimination of the drug begins after six hours, the morphological alterations of the blood are modified in number and form, and after twenty-four hours the whole have disappeared. Finally, Professor Cantani laid down certain precepts as to the opportune hours for the administration of the quinine; and while disclaiming all intention of formulating general rules for every case of the palustral infection, he said that in all cases of true "perniciosa," when the physician can, without technical inconvenience, employ the intravenous injection, he should practise it not at the beginning of the accession, nor at its height, but at the end of it—that is, at the decline of the temperature, in which case he may be sure that no other accession will recur. This addition to our therapeutic armoury in cases of "perniciosa" has the two precious merits of economising time, and of its being certain that the remedial agent is carried with the torrent of the circulation.

Such is a brief summary of a memoir which Professor Cantani will shortly publish in its authentic form in the proceedings of the Congress. He was followed by his colleague Professor Marchiafava, who went minutely into the pathogenesis and histology of malaria. He examined at length the morphological alterations of the blood, of the red globules, and of the hæmoglobin, and combated the views of Klebs and Tommasi-Crudeli, of Laveran and Golgi, and gave an elaborate description, biologically and morphologically, of the *plasmodium malariæ* in the various forms which he, working conjointly with Professor Celli, had recognised as pertaining to the endo-globular parasite peculiar to the malarial infection. Into this demonstration, given, it must be stated, in so low a voice that he was heard with difficulty, we need not accompany Professor Marchiafava farther than to say that his matter was most interesting, and struck out suggestions which cannot fail to have practical weight in therapeutics. For instance, he made it clear that the organs attacked in malarial fever are: first the brain, then the lungs, then the spleen, then the liver, and finally the intestinal canal. He also showed that the parasitic form encountered in tertian remittents presents different characters from those in other varieties of the fever, and he finally put it beyond doubt that the malarial infection is non-contagious.

In the animated discussion that ensued the chief part was taken by Professor Senise of Naples, who, looking to the origin of the disease, said its proper name should be not "mal'aria" but "mal'aqua," and by Professor Mosso of Turin, who maintained that the blood "is a tissue of our body capable of so many modifications, none of which are properly known, that Professor Marchiafava may easily have been led into fallacy." His criticism, adverse and favourable by turns, evoked an explanatory response from Professor Marchiafava, who also took occasion to rebut the objections of Professor Maragliano. This closed the second day's sitting—the most brilliant of the Congress.

(To be concluded.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5709 births and 3433 deaths were registered during the week ending Oct. 19th. The annual rate of mortality in these towns, which had been 17·9, 17·6, and 17·5 per 1000 in the preceding three weeks, rose last week to 18·7. During the first three weeks of the current quarter the death-rate in these towns averaged 17·9 per 1000, and was 1·9 below the mean rate in the corresponding periods of the ten years 1879-88. The lowest rates in these towns last week were 13·2 in Derby, 13·5 in Leicester, 14·5 in Nottingham, and 14·6 in Brighton. The rates in the other towns ranged upwards to 25·1 in Hull, 26·3 in Newcastle-upon-Tyne, 31·4 in Plymouth, and 34·1 in Preston. The deaths referred to the principal zymotic diseases, which had been 529, 403, and 352 in the preceding three weeks, rose again last week to 414; they included 98 from scarlet fever, 83 from diarrhœa, 64 from measles, 59 from whooping-cough, 57 from diphtheria, 53 from "fever" (principally enteric), and not one from small-pox. These zymotic diseases caused the lowest death-rates last week in Leicester and Birkenhead, and the highest rates in Preston, Sunderland, and Plymouth. The greatest mortality from scarlet fever occurred in Sheffield, Brighton, Bolton, Blackburn, and Plymouth; diarrhœa in Leeds and Preston; measles in Halifax, Preston, and Sunderland; whooping-cough in Oldham, Portsmouth, and Wolverhampton; and "fever" in Leeds, Birkenhead, Bradford, and Portsmouth. The deaths from diphtheria included 41 in London, 3 in Salford, 3 in Sheffield, and 2 in Derby. Small-pox caused no death in any of the twenty-eight great towns; and no small-pox patient was under treatment at the end of the week either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital. The number of scarlet-fever patients in the Metropolitan Asylum and the London Fever Hospitals at the end of the week was 1394, against numbers increasing in the preceding sixteen weeks from 559 to 1343; 188 cases were admitted to these hospitals during the week, against 148 and 177 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased in the preceding four weeks from 142 to 264, further rose last week to 300, but were 50 below the corrected average. The causes of 62, or 1·8 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bradford, Portsmouth, Bolton, and in five other smaller towns; the largest proportions of uncertified deaths were registered in Huddersfield, Sheffield, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·8, 18·6, and 18·3 per 1000 in the preceding three weeks, rose to 20·5 in the week ending Oct. 19th; this rate exceeded by 1·8 the rate that prevailed during the same week in the twenty-eight large English towns. The rates in the Scotch towns ranged from 14·9 and 15·3 in Paisley and Greenock to 20·5 in Aberdeen and 23·1 in Glasgow. The 524 deaths in the eight towns showed an increase of 55 upon the number in the previous week, and included 15 which were referred to diarrhœa, 11 to "fever" (typhus, enteric, or ill-defined), 11 to whooping-cough, 9 to measles, 9 to scarlet fever, 6 to diphtheria, and not one to small-pox; in all, 61 deaths resulted from these principal zymotic diseases, against 74, 69, and 64 in the preceding three weeks. These 61 deaths were equal to an annual rate of 2·4 per 1000, which exceeded by 0·1 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 16 and 19 in the preceding two weeks, declined again last week to 15, and were 12 below the number in the corresponding week of last year. The 11 deaths referred

to "fever" showed an increase of 6 upon the number in the previous week, and included 4 in Glasgow, 2 in Aberdeen, and 2 in Greenock. The fatal cases of whooping-cough, which had been 15 and 14 in the two previous weeks, further declined last week to 11, of which 7 occurred in Glasgow, 2 in Edinburgh, and 2 in Dundee. The 9 deaths from measles slightly exceeded the number in any recent week, and included 5 in Aberdeen and 4 in Glasgow. The 9 fatal cases of scarlet fever also exceeded recent weekly numbers; 3 occurred in Perth, 2 in Glasgow, and 2 in Leith. Of the 6 deaths from diphtheria, fewer by 7 than the number in each of the two previous weeks, 4 were returned in Glasgow and 2 in Edinburgh. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 99 and 87 in the preceding two weeks, rose last week to 118, and were 3 above the number in the corresponding week of last year. The causes of 54, or more than 10 per cent., of the deaths registered in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·5, 26·2, and 23·2 per 1000 in the preceding three weeks, rose again to 26·5 in the week ending Oct. 19th. During the first three weeks of the current quarter the death-rate in the city averaged 25·3 per 1000, the mean rate during the same period being 16·4 in London and 17·7 in Edinburgh. The 179 deaths in Dublin showed an increase of 22 upon the number in the previous week; they included 10 which were referred to "fever," 6 to diarrhœa, 2 to measles, 1 to scarlet fever, and not one either to small-pox, diphtheria, or whooping-cough. Thus the deaths from these principal zymotic diseases, which had been 23 in each of the two previous weeks, declined last week to 19; they were equal to an annual rate of 2·8 per 1000, the rate from the same diseases being 1·8 in London and in Edinburgh. The 10 deaths referred to "fever" exceeded the number in any week since March last; while the fatal cases of diarrhœa showed a further decline from recent weekly numbers. The deaths of infants showed a further considerable decline from recent weekly numbers, while those of elderly persons showed a marked increase. Six inquest cases and 5 deaths from violence were registered; and 70, or considerably more than a third, of the deaths occurred in public institutions. The causes of 15, or more than 8 per cent., of the deaths in the city were not certified.

HEALTH OF RANGOON IN 1888.

A copy of Dr. T. F. Pedley's report on the health of the municipality of Rangoon in 1888 has reached our hands. This report throws much useful light upon the unsatisfactory health condition of this urban community, and deserves the serious consideration of the Municipal Commissioners as the sanitary authority of the city. Rangoon, at the time of the last census in 1881, had a population of 134,176 persons, of whom 91,504 were males and 42,672 females; there were therefore only 47 females to each 100 males. Dr. Pedley has apparently assumed that the population of the city has remained stationary since 1881; but, in the face of a table in his report showing an excess of more than 100,000 of immigrants over emigrants at the port of Rangoon during the five years 1884–88, it seems reasonable to think that the population of the city in 1888 was considerably larger than at the time of the last census in 1881. We hope, therefore, that Dr. Pedley's calculated death-rate for 1888 is overstated by an under-statement of the population; but, after making due allowance for this probable over-statement of the death-rate, the report contains conclusive evidence of excessive mortality. It is especially noteworthy that while the death-rate of Christians in 1888 appears to have been but 12·6 per 1000, the rate was 28·4 among Mahomedans, 30·9 among Buddhists, and 48·2 among Hindoos. With regard to the mortality from zymotic diseases, it may be pointed out that the 4574 deaths included 2097 from "fevers," 567 from "bowel complaints," 120 from cholera, and 7 from small-pox. Thus more than half the deaths from all causes were classed under these four headings. The cholera deaths exceeded the number in any recent year, and for the most part are said to have occurred in those localities "where the insanitary conditions are most favourable to its existence." The deaths from other diarrhœal diseases also showed a considerable increase. Small-pox caused in Rangoon 152 deaths in 1883 and 884 in 1884, and the comparative immunity from the disease enjoyed in 1886, 1887, and 1888 is attributed to the successful work of the Vaccination Department. The 2097 deaths from "fevers" showed a marked excess, and were 598 above the average. The greatest mortality from this cause occurred in June and July. A table of the sex and ages at death in 1888 shows the remarkably abnormal age and sex constitution of the population. Under the age of one year, when the numbers living of each sex should not widely differ, the 602 deaths included 352 of males and only 250 of females. The most striking disparity occurs, however, between the ages of twenty and sixty years, in which age-period of the 2740 deaths no fewer than 2225 were of males and only 515 of females. This disparity probably arises from the high death-rate among the coolies, principally from Madras, who are only temporarily resident in Rangoon. Dr. Pedley points out that the city of Rangoon is built upon a partially reclaimed swamp, and that without reclamation and drainage no great improvement of its present unhealthy condition can be effected, as the great majority of the people are living on a soil impregnated with foul organic matter and saturated with moisture. Rain water and fetid sludge are said to form a pool beneath the floors of thousands of otherwise fairly constructed dwellings. A new sewerage scheme is in progress, but Dr. Pedley says, "unless the reclamation of low-lying parts of the town is rigorously undertaken, the new sewerage scheme will lose half its effect." It appears to be difficult to obtain dry wholesome land for building sites, hence land utterly unfit for dwellings is rapidly being built over. These, with the difficulties arising from the large immigration of coolies, who deny themselves proper food and lodging in their effort to save money to return home, are among the causes to which Dr. Pedley attributes the insanitary condition of Rangoon, which is so strikingly reflected in its high rate of mortality. It is satisfactory to note from the local press that the unhealthy condition of the city is now attracting more public attention, and it may be hoped that Dr. Pedley's report will stimulate local public opinion in this important matter.

THE SERVICES.

HORSE AND EQUIPMENT ALLOWANCES.—In the Army Circular of Oct. 1st, a modification is promulgated of the Regulations of 1887, regarding the allowance for horse and equipment, which is applicable to surgeons serving with an army in the field. By the regulation as it stood a surgeon "while serving with an army in the field and necessarily performing mounted duty" was granted £50 to provide himself with a riding horse and horse equipment. In future he may under such circumstances either receive that allowance or be provided with a riding horse from a remount depôt, and horse equipment from public store, or a riding horse from a remount depôt and £10 to provide equipment. "The selection of the kind of issue will be at the discretion of the general officer commanding (or of the adjutant-general of the army if the officer be ordered to provide a horse before embarkation for service). The receipt of temporary duty pay will not disqualify the officer for the receipt of the allowance unless he be acting for an officer who has left his horse available for the duty."

MILITIA MEDICAL STAFF DEPARTMENT.—Surgeon-Major R. H. Rogers, the Waterford Artillery, Southern Division, Royal Artillery, retires under the provisions of paragraph 92, Militia Regulations, 1889, with permission to retain his rank, and to wear the prescribed uniform on his retirement (dated Oct. 19th, 1889).

ADMIRALTY.—The following appointments have been made:—Surgeon Hubert Holyoake to the *Anson* (dated Nov. 1st, 1889); Fleet Surgeon William B. Fletcher to the *Collingwood* (dated Nov. 7th, 1889); Staff Surgeon James W. H. Hawton to the *Victor Emanuel* and Staff Surgeon H. A. W. Richardson to the *Valorous* (both dated Oct. 19th, 1889); Surgeon William Tait to Bermuda Hospital (dated Oct. 19th, 1889); and Surgeon John Hunter to the *Excellent* (dated Nov. 7th, 1889).

VOLUNTEER CORPS.—*Artillery:* 1st London (City of London): Surgeon-Major F. G. Bennett resigns his commission (dated Oct. 19th, 1889).—*Rifle:* 5th (the Hay Tor) Volunteer Battalion, the Devonshire Regiment: Acting Surgeon C. H. Wade resigns his appointment (dated Oct. 19th,

1889).—1st Herefordshire: William Broome Giles, Gent., to be Acting Surgeon (dated Oct. 19th, 1889).—2nd (South) Middlesex: Surgeon T. Trent to be Surgeon-Major, ranking as Major (dated Oct. 19th, 1889).—1st Volunteer Battalion, the Highland Light Infantry: Surgeon-Major, ranking as Major, T. Johnston resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated Oct. 19th, 1889).

Correspondence.

"Audi alteram partem."

THE PRESYSTOLIC MURMUR.

To the Editors of THE LANCET.

SIRS,—In your issue of Oct. 19th Dr. Dickinson has restated the grounds on which he believes that the murmur characteristic of mitral stenosis is due to regurgitation, and therefore occurs during ventricular systole; but he has not attempted to answer the main objections which have been brought against this view, and has made admissions which much weaken the strength of his position. I have so recently stated at length some of the grounds which seem to me sufficient for rejecting Dr. Dickinson's view that I will not repeat them here. I would, however, venture to suggest one or two points in which, as it appears to me, Dr. Dickinson's arguments are inconclusive, or at variance with facts well known and accepted by physiologists and those skilled in experimental research.

Dr. Dickinson states that the "knock" or snap heard at the end of the murmur of mitral stenosis is *at the end* of systole. (The italics are Dr. Dickinson's.) In his former paper[1] he says the "valve allows of regurgitation during the first part of systole, while it is able to close as the systole proceeds, so as to stop regurgitation towards the end of that movement." It is not easy to understand the various periods of the heart's cycle even if, as here stated, the snap comes *during* systole; but if it occurs at the end of systole, it becomes wholly incomprehensible.

a. In this case it would follow that any murmur subsequent to the snap must occur after the end of systole. In mitral stenosis a soft blowing murmur is often heard following the snap, which is generally admitted to be a systolic or regurgitant following a presystolic or direct murmur. But if, as Dr. Dickinson says, the snap is the *end of systole*, this soft murmur cannot be systolic, and there must be some other interpretation of it than that which is usually given. There is, however, no reason to suppose and no evidence adduced by him to show that this is other than, as generally accepted, a mitral regurgitant murmur heard after the *commencement* and not at the *end* of systole. If the first part of the murmur preceding the snap be really regurgitant, and the second soft blowing murmur which follows it be also regurgitant, then there are two murmurs generated by a flow of blood in the same direction and at the same orifice, differing entirely in character and often separated by an interval, a possibility which cannot be entertained. It is to be regretted, for the sake of clearness, that Dr. Dickinson does not quote passages in support of his statement of the views of his opponents, but only says that "those who believe in the presystolic or direct murmur believe that the blood may change its direction at a valve, stop, and go back, and the murmur not lose its continuity or change its tone." The only passage I can find in which any such statement is made is by Dr. T. C. Turner, who writes, *not* in support of the presystolic murmur, but in support of Dr. Barclay's—i.e., of Dr. Dickinson's—views; it is as follows: "If it were true that continuity of the cardiac murmur is inconsistent with a reverse of the direction of the blood stream producing it, this would be fatal to Dr. Barclay's view, which implies a reversal of the blood passing through the mitral orifice between the diastolic part and short 'presystolic' termination of the prolonged bruit, often occupying the whole interval between the second sound and first sound of the heart."[2]

b. Further, it would follow, if the snap occurs at the end of systole, that the carotid impulse which most observers admit follows the snap would not be felt until systole is completed; but experimental physiology has demonstrated that the carotid impulse occurs about one-tenth of a second after the commencement of systole, and immediately after the commencement of the expulsion of the blood from the ventricle.

c. It would also follow that although during the ventricular systole blood has been passing backwards through the mitral orifice into the pulmonary circulation, where the tension is admittedly high, it has not during the same period been forced into the systemic circulation, in which the tension is admittedly low. This is quite contrary to what occurs in ordinary cases of mitral regurgitation, in which the carotid pulse follows the first sound immediately, and is felt not *after* the murmur is over, but *during its continuance*. There is no adequate reason given why in cases where there is regurgitation through a narrowed mitral orifice the carotid pulse should be delayed until after the snap, if, as Dr. Dickinson states, the snap be the end of systole. Again, supposing it to be true that the "knock" occurs at the end of systole, the sound due to closure of the tricuspid valves should precede the "knock" by the whole length of systole, for the tricuspid valves, owing to the increased pressure in the pulmonary vessels, close sharply at the *commencement* of systole. Here also there is no evidence brought forward that such is the case; and it does not seem that any constant want of synchronism between the first sound of the right and left sides of the heart has been noted in mitral stenosis. Again, in cases where there is regurgitation through the tricuspid orifice the murmur is admitted to be systolic in rhythm. If it be so, it should, supposing Dr. Dickinson's hypothesis to be correct, occur at the same time as the presystolic murmur. This, as far as I am aware, is not supported by any recorded case. On the contrary, the tricuspid systolic murmur distinctly comes *after* the snap which terminates the presystolic murmur. And again, if the murmur which Dr. Dickinson calls diastolic is really the direct murmur, and if, as he maintains, the first sound of the heart is only valvular, the sharp closure of the tricuspid valves ought to be heard immediately following it, since he maintains that between it and the subsequent rough rumbling murmur is the commencement of systole. This is not borne out by clinical observation.

In order to account for the sharpness of the sound which ends the murmur under discussion, Dr. Dickinson, without giving any grounds for so doing, discards the explanation of the first sound of the heart which is generally accepted. He assumes that it is due only to the closure of valves, and that muscular contraction has nothing to do with it. If this be so, he should explain why it is that the sound of a hypertrophied heart, in which the cardiographic tracing shows the contraction to be long and sustained, is long and booming; and, on the contrary, why in mitral stenosis, where the sound is short and sharp, the cardiograph shows the contraction to have been more rapid and less sustained; and further, he will have to explain why, when the ventricle has a diminished volume of blood to propel, its systole, contrary to all that can be shown by the cardiograph, is prolonged by the whole length of the presystolic murmur.

Dr. Dickinson is evidently not prepared to accept the view I have lately put forward, and, as I hope, not without adequate reason, that the whole character of the presystolic murmur depends on the flow of blood under high tension through a narrowed orifice into a cavity in which the tension is abnormally low, by which means waves of large amplitude are generated and a thrill produced. He, however, not only gives no alternative, but declines to face the problem, saying, "if the thrill accords, as according to my observation it does, with the heaving of the apex, it is systolic and not made as suggested. How it is made I have not to declare. The circumstances of blood thrills may be various." I can hardly think that such an uncertain statement is calculated, as Dr. Dickinson predicts, to relegate the presystolic murmur to a place "among the errors of the past," and to the rising generation to whom he appeals it may safely be left to judge which view is the more in accordance with facts. I am, Sirs, yours faithfully,

Brook-street, Oct. 22nd, 1889. THEODORE DYKE ACLAND.

[1] THE LANCET, vol. ii., 1887. [2] Ibid., Aug. 18th, 1889, p. 317.

THE VALUE OF HYOSCINE AS A SEDATIVE.

To the Editors of THE LANCET.

SIRS,—I note with pleasure an article which appears in the issue of THE LANCET of the 12th inst., on the value of hyoscine as a sedative, and hasten to add my testimony in favour of a drug which I fear is as yet not fully appreciated.

In 1887 and 1888, when in residence at the Leeds Infirmary, I frequently gave it under the direction of the physicians and surgeons, and its administration became quite the routine practice in almost all cases of mental derangement. I have also given it many times since. The solution generally used has been one of the hydrobromate, one grain to 200 minims, or of the hydriodide. These were found to be more convenient than the weaker solutions which were tried at first. The usual dose to begin with was $\frac{1}{100}$ of a grain, but this was generally largely increased. I have given as much as $\frac{1}{30}$. Most of the cases that I have seen have been such as occur in the ordinary run of hospital in-patients—notably, delirium tremens, acute mania following operation, and delirium caused by heart disease. In all of these its success has been most marked. The effect of the drug shows itself in from one to five minutes. The patient becomes less noisy, and his articulation indistinct, drowsiness then comes on, and, although in many cases the man seems to fight against the drug, he soon becomes quiet and lies quite still, often with his eyes partly closed. In about half the cases this state gives place to sleep. This is generally accompanied by stertorous breathing and by a peculiar twitching of all the voluntary muscles; the patient can with great difficulty be roused, and his pupils are dilated and do not react to light. Besides the cases mentioned above, I have given it to a man with intense neuralgia of the supra- and infra-orbital nerves. He was a confirmed opium taker, and morphia had little effect on him. Hyoscine frequently gained him some hours' sleep when morphia and chloral had failed. In yet another case, one of very severe chorea, it sent the patient to sleep after many drugs had been tried in vain. As regards unpleasant after effects, I may say that they are not so common as after morphia, though there is often some dryness of the throat and weariness. I have never seen any alarming symptoms caused by hyoscine, and believe that with ordinary caution it is a safe and very valuable remedy.

I remain, Sirs, faithfully yours,

A. S. BARLING,
House Surgeon, North Staffordshire Infirmary,
Oct. 13th, 1889. Stoke-on-Trent.

ST. MUNGO'S COLLEGE, GLASGOW.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a letter in THE LANCET of the 19th inst., signed by Dr. J. Wallace Anderson. Dr. Anderson, before writing to you, has neglected to ascertain his facts. His statements regarding the action of the Academic Committee and the governors of St. Mungo's College are wholly incorrect. The committee reported to a meeting of the governors held on Aug. 6th, to which all governors were summoned by circular in the usual way, and the appointments were then made. The list was not published till August 20th. But his statement is quite as accurate as many others that have been publicly made by the opponents of St. Mungo's College. Dr. Anderson could easily have obtained accurate information had he desired, for he is well acquainted both with the secretary of the College and with,

Yours respectfully,

Glasgow, Oct. 19th, 1889. W. G. BLACKIE, Principal.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Hospital for Women.

THERE has been lately an interesting case of ileo-colotomy at the Hospital for Women under the care of Mr. Burton. The patient, a single woman, was admitted into the hospital on June 6th last suffering from the passage of all her fæces through the vagina. She stated that she had been confined seven weeks before admission; the labour was difficult, necessitating the performance of craniotomy. Two days afterwards fæces began to pass per vaginam, and continued to do so, nothing passing by the rectum except on one occasion. The fistulous opening was high up in the vagina, and involved the lower posterior portion of the cervix uteri and the adjacent part of the vaginal roof. It was further ascertained that the portion of bowel implicated was not rectum but small intestine. As it was considered impossible to repair from below, and as the patient was emaciating rapidly from inanition, it was determined to attempt treatment by abdominal section; and as so much of the circumference of the bowel was lost, it was decided to perform resection of it and leave the piece attached with vagina and uterus undisturbed. As Mr. F. B. Jessett had had considerable experience in the use of Senn's bone plates, he was communicated with, and made valuable suggestions. The operation was performed on the 22nd of August. To add to the interest as well as to the difficulties of the case the patient had been taken suddenly ill with abdominal trouble three weeks before, and a hæmatocele was diagnosed. In consequence of this the intestines were matted together and adherent to adjacent parts of the uterus and the pelvic wall. The portion of intestine implicated was found to be the lower end of the ileum, about four inches from the cæcum. The intestine was first cut across about four inches above the adherent part, the ends were then invaginated, and the serous surfaces united together by continuous suture; the lower end was then dropped. A longitudinal incision was next made on the convex surface of the upper part, about two inches from the end, and one of Senn's decalcified bone plates placed in position. As there was not room to deal similarly with the short piece between the adhesion and the cæcum, it was determined to make the second opening in the colon itself, and in the same way as the one just made in the ileum. This was done, and the bone plates, one in the ileum and the other in the colon, were brought together and tightly tied with very fine silk. The abdomen was then closed in the usual way. There is little further to record. The patient was kept on starvation diet, nothing but strained beef-tea and water being allowed for four or five days. Flatus passed freely from the third day, the bowels were properly opened on the fourteenth day, and no fæcal matter came per vaginam from the time of the operation. The case shows the great ease with which intestinal resection can be performed by means of Senn's decalcified bone plates, in contrast with the tediousness and danger of the best method of suture heretofore in use. Mr. Burton will probably publish a more detailed account of the case later on. Meanwhile it may be stated that at a very recent date the patient, who is under careful medical observation, was reported to be doing extremely well.

Indecent Advertisements.

The Act which will come into force on Jan. 1st next will be of great benefit to this city and neighbourhood, which has too long been disgraced by the display on walls and hoardings of quack advertisements of a most indecent character, with an effrontery almost incredible. In spite of many prosecutions and fines the nuisance continued, and could only have been suppressed by an Act as stringent as that which has been passed, and which will shortly come into force.

The Education of the Deaf and Dumb.

At the next meeting of the Liverpool Medical Institution the attention of the members will be drawn to the recently published recommendations of the Royal Commission on the Deaf and Dumb, and the following resolution will be moved: "That in the opinion of this meeting the combined method of education is to be preferred to the pure oral system for the masses of the deaf."

Liverpool, Oct. 23rd.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Queen's College.

THE annual meeting of the governors of Queen's College was held on the 17th inst. The report showed a most satisfactory condition—namely, that the financial position was absolutely sound, that there were 225 medical students on the books (there being 76 new entries this year), and that the arrangements for teaching and working were of the most complete kind. Additional interest was given to the meeting by the presence of the Home Secretary, the Right Hon. Henry Matthews, who spoke as a governor of the College and as a graduate of the University of London. He said that he should be loth to see any changes in that university which would lower the quality of the degrees, and

that there were certainly reasons against the multiplication of universities. These sentiments were supported by Sir James Sawyer, who presided, and were generally endorsed by the meeting.

Provincial Colleges and the London Higher Education Commission.

On the same afternoon a conference of representatives of the provincial university colleges of England and Wales was held in the Mason College, by the invitation of the Council and Academic Board, to consider the bearing upon those colleges of the recent report of the Royal Commission. A long discussion took place, and ultimately the following resolution was unanimously adopted: "That this meeting, composed of representatives of the University Colleges at Aberystwith, Bangor, Birmingham, Cardiff, Leeds, Newcastle-on-Tyne, Nottingham, and Sheffield, protests strongly against the adoption of any scheme for remodelling the existing University of London, which follows the lines of the report of the Royal Commission, on the ground that any such scheme invades the vested rights of the provincial colleges, and, by placing them at a disadvantage as compared with the metropolitan colleges, would, if carried into effect, operate seriously against their future progress and development." By another resolution a small committee was appointed "to approach the Lord President of the Council to request him to receive a deputation composed of representatives of the provincial university colleges, and to communicate his decision to the other colleges concerned; and, further, in the event of his consent being obtained, to make arrangements for the interview."

The National Temperance Congress.

The business of this Congress was inaugurated by a reception given by the mayor (Alderman Barron) on the 21st inst., the company numbering about four hundred. The proceedings were marked by much cordiality and satisfaction. The Bishop of London, as president of the Congress, delivered his inaugural address in the Town Hall to a large attendance. In a forcible and elaborate address he dwelt upon the advance made by the temperance movement, and stated that medical men had begun to restrict their recommendation of intoxicating liquors more and more year after year; the quantity that they allowed was becoming steadily less, and they have practically given up to the temperance side entirely the whole body of the young. A series of meetings throughout the district, and dealing with various aspects of the question, have been held, a temperance institute on a large scale opened, and organisations set on foot which promise to give a foundation for future working of this important aspect of social life.

The Scarlet Fever Epidemic.

The latest reports show that this epidemic has not gained in force during the last three weeks, the cases in each week being respectively 87, 85, and 85. On Saturday last the total number of cases in the hospital stood at 424. The death-rate remains very low. The deaths from the seven zymotic diseases numbered only 14 last week, as against 16 in the corresponding week of 1888.

Birmingham, Oct. 23rd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle.

IT appears from a statement in our local papers that the Executive Council of the late Jubilee announce a surplus in hand, after all known liabilities have been satisfied, of over £4000. This is very satisfactory, but I hardly think that the proposed handing over this important sum to the College of Physical Science here will be considered altogether free from objection. The College of Physical Science is a huge building, with a debt, a complete staff of professors, and a mere handful of students. Now, if some plan could be devised by which other and as useful and important institutions in the town could participate in this surplus, it would, I am sure, give more general satisfaction. I might mention, for instance, the College of Medicine, the Royal Infirmary, the Convalescent Home, and the minor medical charities, all doing good and useful work.—I see that the friendly societies of Hebburn-on-Tyne have held a meeting, and it has been mentioned by delegates that it would be desirable to have an infirmary of their own at Hebburn, instead of contributing annually £500 to the Newcastle Royal Infirmary. It is said that there are twenty-three friendly societies and workshops, all contributing to the Newcastle Infirmary. I fear the workmen will make a mistake if they carry out this suggestion. It would be all very well to have a small local hospital for surgical cases and accidents, but what is to become of the men when work becomes slack and they cannot subscribe to their proposed hospital? There is an immense advantage—of which the working classes get the most benefit—in keeping up a large central hospital like the Newcastle Royal Infirmary, where the nursing and other arrangements are very complete.

Death of Mr. William Cockcroft, M.R.C.S., Catterick.

I regret to notice the death of Mr. William Cockcroft, of Catterick, Yorkshire, which took place on the 13th inst. Mr. Cockcroft was a highly respected practitioner in the district for nearly fifty years, where he commenced after completing his medical education in Dublin. He was a hard worker in his profession up to about two years since, when his health completely broke down and he was compelled to retire.

Proposed Lunatic Asylum for Middlesbrough.

It was stated at a late meeting of the Middlesbrough Board of Guardians that the time had arrived when a lunatic asylum should be erected in Middlesbrough; at present it appears that there are at York 180 lunatics belonging to the Middlesbrough Union, and the guardians had received an intimation from York that the authorities there could not receive any more, while they were paying close upon £4000 a year for them.

Newcastle-on-Tyne, Oct. 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

EDINBURGH.

Opening of the Edinburgh University Union.

THE splendid buildings erected for the accommodation of the Edinburgh University students were finally thrown open on Saturday by the Chancellor of the University (Lord Justice General Inglis), and those interested had an opportunity of seeing what has been provided for their comfort and entertainment. So much has already been written about these buildings that it is now merely necessary to give a very brief description of the arrangements. There is a capital entrance hall, on either side of which is a writing-room and reference library, rooms which are also to be used for meetings of smaller University Societies which, according to the rules, may become affiliated with the Union. Beyond these rooms, and at a somewhat higher level, is a splendid luncheon and dining-room, in which a very considerable number of students can be served at once. From this is a stair leading to a smoking-room, in which are a couple of billiard tables. This room is well fitted up, and will certainly be a favourite resort for students in their leisure hours. On the top storey is a large hall, to be used as a general reading-room during the day and as a debating hall in the evening. At each side is a kind of strangers' gallery, and at the head of the room is a speaker's chair. This room is to be supplied with the various periodicals and journals, but it is anticipated that there will be the greatest run on general and medical literature for some time at least, as at present the medicals appear to be the most clubable men in the University. Passing from roof to basement, we come to a really good gymnasium, well fitted up with gymnastic apparatus, but sadly wanting in foils, masks, boxing-gloves, mattresses, and such-like movable "properties." Fencing is one of the best exercises that a man who is not regularly and actively engaged in physical exercise can have, and is specially well suited to meet the needs of a close student. *Verb. sap.* Here are a couple of ante-rooms, one of which is fitted with a shower-bath and with room for three or four warm baths. Outside these dressing-rooms are the lavatories, which are exceedingly well arranged. That the whole work has been done most thoroughly was the general opinion of those who took part in the opening ceremonial. The Chancellor of the Univer-

sity—who was accompanied to the platform by the Lord Rector (the Marquis of Lothian), Principal Sir William Muir, most of the medical and some of the other professors and lecturers, and a host of legal, civic, and general dignitaries—in declaring the Union buildings open, said that the promotion and encouragement of a more social and gregarious life among the students was by no means a new or crude idea. It formed the subject of serious and earnest consultation among the friends of the Scottish Universities of a former generation, now almost entirely passed away. He himself, twenty years ago, had advanced the opinion that if the students could be associated, not only in their studies, but also in their social hours and amusements, it would contribute largely and usefully to their educating one another, and that, in place of the dull life of the solitary student, there would grow up a life more cheerful and happy—a condition of the highest importance in our educational view, because the youthful mind is naturally joyous and impulsive, and whatever tends to unnecessary depression or sombre thought must impair its elasticity. He thought that the Union had done very wisely in inviting all who had been students in the past and are now members of the General Council to join the Union. It would indeed be very hard if former students, who have borne the burden and heat of the day in promoting its formation, should be denied all connexion with the full-fledged Union. One of the most striking features in the higher education of this country, in the present age, had been recognised—the larger sympathy and closer friendship between pupil and teacher, leading to their intimate association in sports and amusements, which may be enjoyed by both in common without the slightest derogation from the true character of the relations which must exist between them in hours of instruction; and the admission of professors and others in authority to the Union was conceived in a right spirit, and would probably lead to most useful and beneficial results. Lord Lothian, speaking on behalf of the students, thanked all who had helped in any degree and in any manner to bring about such a magnificent result. So far as he had seen, the Union met the utmost needs of the University, and would afford an opportunity for that social intercourse which did so much for student life. They would best show their thanks for the Union by making it what it was meant to be—an additional source of strength to the University to which they belonged, to the alma mater and most cherishing mother, to which anyone worth his salt must have the warmest devotion. Principal Sir William Muir also spoke; and later Lord Lothian caused some amusement by saying, in connexion with the passing of the Universities Bill, that from the professoriate point of view he had ample means—and they took care that he should have ample means—of knowing their desires; but the students had not the same opportunity of bringing their views before him. He did not say that they would have caused him to alter the character of the Bill, but it would have been a great satisfaction to him to know what their views were upon the great subjects that came under discussion in that Bill. In the evening there were great rejoicings, the torch-light procession as usual playing a prominent part in the proceedings.

New Assistant Surgeon in the Royal Infirmary.

There has been no lack of good candidates for the post of assistant surgeon in the infirmary. In addition to those already mentioned, Dr. Kenneth M. Douglas and Mr. H. A. Thomson were candidates. From what is already known of the work of the five men, any one of them might have been elected, and the infirmary would have been well served. The choice of the managers has fallen upon Mr. John Shaw M'Laren, M.A., M.B., F.R.C.S. Edin., at one time well known amongst the students as one of the best demonstrators in the "rooms." Mr. M'Laren was very strongly recommended as one able to bring to bear on his work all that anatomical knowledge, sound surgical training, and teaching capacity that the traditions of the Edinburgh University have associated with its surgical teachers.

The Triple Qualification.

At the quarterly examinations held in connexion with the Royal Colleges of Physicians and Surgeons, Edinburgh, and Faculty of Physicians and Surgeons, Glasgow, there were for the first examination sixty-five candidates, of whom thirty-four, or over 52 per cent., passed; for the second examination seventy-six candidates presented themselves, of whom thirty-three, or over 43 per cent., were successful; and for the final examination there were 101 candidates, of whom forty-six passed.

University of the Edinburgh Faculty of Medicine.

At the special final examinations, held early in October, forty-four of the candidates were successful, and will proceed to the degrees of M.B. and C.M. in due course.

Edinburgh, Oct. 22nd.

GLASGOW.

Cæsarean Section.

DR. MURDOCH CAMERON, obstetric physician to the Glasgow Maternity Hospital, has added a third successful case to his list of Cæsarean sections. The patient was rachitic, about 48 in. in height, and was sent from a neighbouring town, after being two days in labour. The operation was performed on Oct. 8th. The mother and child (female) are both doing well.

Glasgow, Oct. 22nd.

ABERDEEN.

Opening of the Winter Session at Marischal College.

NOMINALLY the winter session began on Tuesday, the 15th inst., but so few students put in an appearance on the first day that the introductory lectures were not delivered till the following day. The opening of the session found the Medical School without a professor of anatomy. Information had just been received by the Principal that Professor Struthers' resignation had been accepted, but no mention was made of a successor. Dr. Struthers at once offered to carry on the work of the anatomical department until his successor was appointed. This offer was accepted by the Senatus, and Dr. Struthers met the students on Friday the 18th. The large lecture-room was crowded, and the students received and welcomed back their old teacher with tremendous cheering. He said: "A short time ago I was your professor, but now I am only your teacher temporarily." Since they last met, he said, he had had only four days' holiday, but he thought he had still vitality enough left in him to carry on the work for a fortnight or so. Most of the professors delivered more or less special introductory lectures. Professor Hamilton chose for his text "Some of the Diseases Common to Man and the Lower Animals." He referred to his Introductory Lecture last year on Pleuro-pneumonia. In it he strongly advocated the establishment of experimental stations with the view of studying the pathology and preventive treatment of the malady. His advice has been taken by the local authority of Fife, and stations have also been established in Australia. He said this was a step in the right direction. In Australia immense saving to cattle-owners has followed the introduction of inoculation. The present system of attempting to eradicate the disease by the slaughter of the whole herd where the disease appeared has not proved a success. Compulsory slaughter, he said, may stay the progress of the scourge for a time; but it is at the best an artificial and clumsy remedy. What we want to know is, Can the proceeding (inoculation) be so perfected as to be free from danger, and yet so efficacious that it will preserve animals through a certain number of years from infection? If so, then we would have some sort of solid basis to found compulsory legislation upon, such as that which now prevails against small-pox. Concluding his remarks on this subject, Professor Hamilton said: "A most interesting question arising out of the study of pleuro-pneumonia in cattle is its relationship to pleuro-pneumonia in man. The disease as it occurs in man is distinctly infectious; but whether it is alike in its causation with the infectious pleuro-pneumonia of cattle remains unsettled." The remainder of the lecture was taken up with the consideration of tuberculosis, "wooden tongue," epidemic sore-throat, &c. Professor Smith Shand first spoke of the extension of the University buildings now going on. He then referred to the resignation of Professor Struthers as "another notable event" which had taken place during the past year. He said: "Dr. Struthers has retired after a professional life devoted to scientific teaching and research. During his *régime* the advance and prosperity of the Medical School have been very marked and greatly due to his exertions and influence. An able teacher, an excellent man of business, an authority on all matters pertaining to university and medical legislation, a man possessed of great energy and

strong traits of character, his resignation leaves a blank in the professoriate which it will be difficult to fill. Let us hope that relief from the routine of academic work and teaching will so restore his health that he may enjoy many years of learned leisure." Dr. Smith Shand then spoke of the passing of the Universities Bill, and the great changes that would probably take place in the curricula of the different faculties. He said: "Recently the medical journals have been filled with the contending views of Mr. Wheelhouse of Leeds, the present President of the British Medical Association, who takes the purely practical side of medical education, and argues in favour of apprenticeships; and of Professor Gairdner of Glasgow and of Dr. Clifford Allbutt, who are strongly in favour of scientific and university training. I myself thoroughly agree with the latter system as taught in our Scotch schools, and consider that the wider scientific training of the University, together with due attendance on dispensary and hospital practice, constitute the best means of qualifying the student for the future business of his life. A return to the apprenticeship system would, I consider, be a most retrograde step." Dr. Smith Shand said the great difficulty that had to be contended with was the overloading of the scientific portion of the curriculum to the detriment of the practical portion. The remedy for this which he most favours is to extend the curriculum so that it shall embrace five years of professional study. Professor Cash spoke of the position of his subject, "Materia Medica in Medical Education," and pointed out that the designation of the chair was misleading or insufficient, as it did not indicate that pharmacology and therapeutics—two of the most important and direct applications of science to practical medicine—were taught as well as pure materia medica. He pointed out that the scope of the subjects to be covered in the systematic lectures was very extensive, and argued that if any redistribution of subjects were made in the future a certain part of pure materia medica should be relegated to the departments of chemistry and botany, and this would leave time for the remaining portion of materia medica, as well as therapeutics and pharmacology, including toxicology (except from its medico-legal aspects), to be exhaustively dealt with by the professor of materia medica.

Health of the City.

In his report for September, Dr. Hay states that the number of deaths in the city during the month was 171, which is at the rate of 17·13 per 1000. During September twenty cases of measles were reported, as against seventy-three for August. During the epidemic of measles, which has now exhausted itself, 2000 cases were reported. The city is now threatened with an epidemic of scarlet fever. In September seven cases were reported, but the disease, owing to the carelessness of those affected, is making considerable progress. Dr. Hay has issued a special appeal to the public to exercise every precaution and carry out the printed instructions as to isolation and disinfection.

Aberdeen, Oct. 23rd.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

Royal University of Dublin.

A MEETING of Convocation was to have been held on Tuesday, the 22nd inst., but as a quorum did not attend no business could be transacted. It was intended to submit the report from the annual committee to the meeting. The committee stated that a commencement had been made of the University library and museum, and they hoped that immediate steps would be taken to secure to members of the University the privilege of making use of it. The museums illustrative of physical science, biology, and pathology are not open to members of the University, and to exclude students from the advantage of access to collections containing valuable and in some places unique specimens, appears to be a policy of doubtful expediency. Under the statutes in force up to the present year, Fellowships becoming vacant by death or resignation in and after 1889 could only be filled up by competitive examination among the graduates of the University; but the committee have learned that these statutes have been altered and new ones substituted, from which the provisions for competition have disappeared. They regard it, they say, as a matter gravely affecting the well-being of the University and the interests of its graduates that the rich prizes offered for competition, under the provisions of the charter and the sanction of the royal statutes, should have been withdrawn, and that in the very year when, for the first time, they were to have been attainable. A meeting of the University for the purpose of conferring degrees will take place on Monday next, the 28th inst. It is expected that the Chancellor of the University, the Marquis of Dufferin, will preside.

College of Physicians in Ireland.

The Fellows on St. Luke's Day duly elected Dr. Atthill President, and also representative of the College on the General Medical Council for the ensuing year. At the same meeting the Fellowship was conferred upon Dr. Henry C. Tweedy. Last week Dr. Aquilla Smith was presented with his portrait by the Fellows of the College, not only as a token of esteem, but also as a recognition of his services to the College as representative of the College on the General Medical Council. It may be added that the cost of the portrait was subscribed for exclusively by the Fellows of the College, and that the artist—Mr. Catterson Smith—has produced an admirable likeness.

Royal Academy of Medicine in Ireland.

From the report for the past year of the General Council it appears that the number of Fellows is 244, or an increase of twenty-one over the previous session, and that the total amount invested on behalf of the Academy now stands at close on £600. A resolution having been adopted last year approving of the proposal that some member of the profession should be invited to address the Fellows and Members on some branch of medicine, it has been arranged that Professor Purser shall deliver a lecture during the present session, for a remuneration of twenty-five guineas. It has been suggested that the Council should sanction the formation of a committee in connexion with the anatomical section, for the purpose of extending the method of collective investigation to anatomical research in the schools of Ireland, and the Council regard the scheme as one of the modes in which the Academy may aid in the development of medical science in this country. The election of office bearers will take place on Friday next, the 25th inst., and there will be contests for seats on the Council in every section, with the exception of the medical section.

Rotundo Lying-in Hospital, Dublin.

Dr. Macan will shortly vacate the mastership of this institution, and an election for his successor will take place in a couple of weeks. There are numerous candidates for the post, the emoluments of which are about £1000 a year, and the appointment is tenable for seven years. It is generally believed that Dr. W. J. Smyly will be selected. The mastership of the Coombe Lying-in Hospital will also shortly be vacant, and it is expected that the appointment will lie between Mr. Colclough Hoey and Dr. F. Kidd, both having acted as assistant masters to the institution.

Jervis-street Hospital, Dublin.

The introductory address at the opening of the winter session will be delivered on the 1st prox. by Mr. Austin Meldon, President of the Royal College of Surgeons in Ireland. Mr. Meldon has selected for his address the subject of "Pasteur and Hydrophobia."

Galway County Infirmary.

Mr. Robinson and Dr. Browne, Local Government Board Inspectors, by warrant of the Lord Justices, held an inquiry last week in the County Court-house into the condition of the Galway County Infirmary. The following were the points upon which evidence were particularly taken:—(1) The present state of the County Galway Infirmary in relation to the funds available for its support, and the general management of the institution; (2) whether it is expedient that the said infirmary should be converted into a public hospital; (3) whether it is desirable that the county of the town of Galway should be required to contribute towards the cost of maintenance of the infirmary, and, if so, to what extent; (4) in the event of such changes being considered advisable, what alteration would thereby become necessary in regard to the constitution of the governing body of the institution; and (5) what arrangements would seem to be expedient with respect to the future admission of patients, the inspection of the institution, and

the auditing of the accounts of the governing body thereof. The infirmary had a full staff of nurses, a surgeon, and two resident pupils. Paid patients were admitted at various rates, varying from tenpence to two shillings per day. There were sixty-one beds. Evidence was given showing the necessity of converting the institution into a public hospital, and Colonel O'Hara, one of the governors, propounded a scheme for the future working of the infirmary. He would allow the ratepayers a representative, while the election of a surgeon should be vested in the Lord-Lieutenant, and not in the governors. He would admit, largely, paying patients and all accident cases at once, though most accident cases should also be paying. Some further evidence having been tendered, the inquiry closed.

The Second Professional Examination under the Conjoint Scheme of the Colleges of Physicians and Surgeons was held last week, and I hear that out of fifty candidates only nineteen passed.

Three Dublin practitioners are at present ill from fever—viz., Messrs. Horne, Ashe, and Auchinleck. Two of the cases are typhoid and the third typhus.

An election for two members of Council of the Royal College of Surgeons took place to-day, with the result that Dr. Kidd and Mr. H. R. Swanzy were returned.

Dublin, Oct. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Action of Iodide of Potassium on the Heart.

As whatever emanates from the pen of Professor Germain Sée is always interesting I make no apology in offering to your readers the following abstract from the very important communication he made to the Academy of Medicine on the 8th inst. on the action of iodide of potassium on the heart. He began with the remark that it is not sufficient to affirm that iodide of potassium has a tonic action on the heart, but it must be proved that it is so and how or why it is so. This the learned professor had endeavoured to resolve by experiments in the laboratory and by clinical observation. In conjunction with Dr. Lapicque (his *chef de clinique*) his researches were first directed towards the modifications of the blood pressure under the influence of the iodides of potassium and of sodium, to ascertain whether these salts produced a vaso-constriction or a vaso-dilatation, and also the conditions of the mode of their action. This was done by injecting into the saphenous vein of numerous dogs solutions of the iodide of potassium or of sodium in the proportion of one to ten parts. The dogs were feebly curarised, and a registering manometer indicated the pressure in the carotid or in the femoral artery. It is known that the salts of potash excite the heart and the vaso-constrictor nerves, and raise the blood-pressure. Nothing of the kind takes place with the salts of soda. M. Sée had first verified that the radicle potassium conferred on its iodide the properties of the salts of potash. The following were the very interesting results obtained. When iodide of potassium or iodide of sodium is injected into the blood phenomena are observed which present two distinct phases. M. Sée designates the first "the phase of the alkali," and the second "the phase of the iodine." When the iodide of potassium is employed the phase of the alkali is distinctly characterised. The heart's beat is accelerated, the pressure raised, and the tracings present great oscillations, which are slow and regular. When the iodide of sodium is employed, the phase of the alkali is indicated by a very slight elevation of the pressure, slowing of the action of the heart, with occasional intermissions. On the contrary, the phase of the iodine corresponds with the injection of either of the two salts, and it is indicated by the pressure, which descends slowly, in a continued manner, and by the action of the heart, which is accelerated. M. Sée offers in explanation of this similitude that the iodide of potassium is decomposed, that the potassium is eliminated, and that the iodine is thus found in the blood, combined with the sodium, whatever be the iodide primarily injected. However that may be, Professor Sée's experiments seem to show that the iodide of potassium first determines phenomena of excitation, with the action of the heart accelerated, an elevated pressure, a manifest vaso-constriction; then follows vaso-dilatation, with low pressure, which is also determined by the iodide of sodium. In the vaso-constriction, with elevation of pressure, and the strengthening of the heart due to the potassium, the vaso-dilatation and lowering of the pressure due to the iodine, we have, says M. Sée, the explanation of the effects of the powerful action of the iodide of potassium. The vaso-dilatation explains the hyperæmia of the bronchial mucous membrane and the hyper-secretion which results from this drug, and which is so useful to asthmatics for getting rid of viscous secretions. It explains the pulmonary hyperæmia which results from the venous stagnation in cardiac subjects. It also explains the anti-dyspnœic power of the iodide of potassium in facilitating the circulation in the medulla, and consequently restoring it to its normal functional activity. Immediately the paroxysmal or continued dyspnœa, the fits of suffocation, &c., completely disappear. The vaso-dilatation finally explains how the heart becomes freed from the obstacles which the tonicity of the arterial vessels presents to it, how the coronary circulation becomes more free, and how the heart becomes reinforced and beats with energy. On the other hand, iodide of potassium primarily strengthens the heart and the pressure. Hence M. Sée, comparing its action with that of digitalis, and studying the toxicity of the salts of potash, so exaggerated by physicians, has given it the name of "digitalic poison"—that is to say, beneficial. It results from these considerations that iodide of potassium is applicable to the greater part of the diseases of the heart and of the coronary vessels. Useful in the most diverse lesions, M. Sée would condemn it only when it determines hæmorrhages or permanent gastric iodism. It is not only useful against dyspnœa, it is still more so in many other cases, and M. Sée explains how and why it is so. Iodine reduces the fatty element in fatty degeneration of the heart. In fibro-adipose degenerations, in sclerosis, one cannot expect the reduction of the transformed tissues, but the muscular fibres which have quickened their circulation remain and are consequently improved in their function, whence the indication for iodide of potassium in all cases of degeneration. If the heart be weakened from overwork, or be in a state of asystolism, iodide of potassium renovates the weakened or distended tissues of the heart. If the left ventricle be hypertophied, the most that the drug can do is to render the cardiac circulation more active; it cannot be injurious, as it does not reduce the muscular fibre. In coronary sclerosis (angina pectoris) it is useful in dilating the coronary vessels that have remained free and healthy; but this is not an arterial medicament in the denutritive sense. In cardialgia (false angina pectoris), where the pains are so severe, where the respiration is polypnœic, it has incontestable advantages combined with antipyrin or with inhalations of the vapours of pyridine. In Basedow's disease, or where there already exists a morbid vaso-dilatation, the iodide of potassium will be useless, or even dangerous. On the contrary, it is in aneurysm of the aorta that it succeeds, although it is not by producing the coagulation of the blood, as is generally believed. But it is here, in particular, that M. Sée objects to the use of iodide of sodium, the employment of which nothing can justify.

Paris, Oct. 22nd.

Obituary.

SAMUEL OSBORNE HABERSHON, M.D. LOND., F.R.C.P.

A BRIEF NOTICE of the death of this able and eminent physician appeared in our issue of Aug. 31st, and we now append a review of his life.

Dr. Samuel Osborne Habershon, who was born at Rotherham in 1825, was a descendant of the Yorkshire branch of an old Lancashire family, whose seat, Habergham Eaves, was in the village of Habergham, or Habersham, near Burnley. The older name of Habersham is still retained by the American descendants of the same family, whose ancestors went over with Whitefield, and were among the earliest settlers in the State of Georgia, and contributed the first governor of the colony, and subsequently a post-master-general in Washington's Cabinet. Dr. Habershon was educated at Brampton, near Watt, and at Ongar, Essex. He

came up to London in 1840, and at this early age commenced the study of medicine with the assiduity and earnestness which characterised the whole of his after career. Although present at the introductory lecture delivered by the late Dr. Addison at Guy's Hospital in 1840, he did not enter there as a student until two years later. He became, however, a pupil of the late Mr. Ebenezer Pye-Smith, of Billiter-square, City, and, meanwhile, attended lectures on botany at the London Hospital, where he gained the first prize, a silver medal, at the end of the session. His career at Guy's dates from the year 1842, and his record, both at that hospital and at the University of London, was one of continuous and brilliant distinction. Prizes in chemistry and anatomy were awarded him at Guy's in 1843 and 1845, as was also the first prize in chemistry at the matriculation examination of the University of London in 1844. In the first M.B. examination in 1846 he was first in anatomy, in materia medica, and in chemistry, obtaining three gold medals and two exhibitions. In 1848, in the second M.B. he obtained the first place in medicine with a gold medal and scholarship, and the first place in physiology with a gold medal. This uninterrupted success speedily brought him into notice at his hospital, and he was in the following year, 1849, appointed demonstrator of anatomy and tutor. In 1851 Dr. Habershon took his M.D. degree, and became lecturer at Guy's on comparative anatomy, and also gave microscopical demonstrations. These posts he continued to hold until 1853, when he was appointed demonstrator of morbid anatomy, curator of the museum, and lecturer on pathology. In 1854 he was appointed assistant physician to Guy's Hospital, and in 1856 he relinquished the posts he already held for the chair of materia medica. At the same time, in consequence of Dr. Addison's death, he took charge of certain beds in Philip ward. In 1864 he superintended the Skin Department and gave demonstrations, and in 1866 was elected full physician, becoming senior physician in 1873. In this year he exchanged the lectureship on materia medica for that on the principles and practice of medicine, which he held until the year 1877. His career at Guy's Hospital, so distinguished and honourable, was, however, destined to be cut short by circumstances altogether unforeseen. In November, 1879, it became apparent to the medical staff that the new departure in the system of nursing was seriously interfering with the welfare and treatment of their patients. A remonstrance with the governing body led to serious conflict, which was further embittered by a widespread discussion in the public press. Regardless of the opinion of their medical staff, who were qualified by their technical knowledge and daily experience in the wards to be the best judges in the matter, the governing body practically upheld the innovations. As a final result of the prolonged controversy, the resignations of the senior physician and surgeon were demanded, and although this demand was subsequently withdrawn, yet Dr. Habershon and the late Mr. Cooper Forster felt strongly that their continuance in office was not consistent with their personal views of professional dignity and honour. They consequently sent in their resignations in November, 1880, which were accepted. Thus ended for Dr. Habershon a connexion of nearly forty years with Guy's Hospital—a connexion which included the best years of an active life and much arduous and brilliant work. That his action and that of his colleague, Mr. Cooper Forster, was not without large professional support was sufficiently proved by the presentation of a substantial testimonial to each of these gentlemen on the part of old Guy's men and numerous other friends. Whilst deeply regretting the serious check thus inflicted on the progress and prosperity of a great hospital and medical school, it must be recognised that other institutions have profited by the experience, and have safeguarded themselves from a similar catastrophe by giving adequate representation to the views of the medical staff in their governing bodies. It is still further to be regretted that the suggestion made some time since, that Dr. Habershon and Mr. Cooper Forster should be placed on the consulting staff of the hospital, was not carried out—a compliment which would have been not only worthy of the recipients, but graceful on the part of the donors.

In addition to his university degree, Dr. Habershon in 1848 became qualified as Member of the Royal College of Surgeons, England, and a Licentiate of the Apothecaries' Hall. In 1851 he became Member of the Royal College of Physicians and Fellow in 1856. Subsequently he was appointed Examiner in Materia Medica at that College, and one of the Council in 1869; in 1874 and 1875, Censor; in 1876, Lumleian lecturer; in 1876 to 1877, Examiner in Medicine; 1877–8–9, member of the Council; Harveian Orator in 1883; Senior Censor in 1885; and Vice-president in 1887.

Dr. Habershon was physician to the City Dispensary in 1852, but resigned eighteen months afterwards on account of his appointment to Guy's Hospital. In 1862 he became physician to the Star Life Assurance Society, and in 1863 consulting physician to the London City Mission, both of which posts he continued to hold until his death. At the medical societies Dr. Habershon took a prominent position. He delivered the oration at the Medical Society in 1863, the Lettsomian lectures at the same Society in 1872, and was elected president in 1873. He became president of the Metropolitan Counties Branch of the British Medical Association in 1880.

During the many years of Dr. Habershon's intimate association with Guy's Hospital, in each and every capacity, whether as student, teacher, or physician, he was especially distinguished by the conscientiousness and earnestness, as well as by the ability and success, with which he fulfilled the duties that devolved upon him. One who was his colleague up to the termination of his connexion with Guy's, and who valued him as a friend during a period of nearly thirty years, and until his death, writes as follows: "I cannot express my own sorrow, nor my sense of the loss the profession and the public generally have sustained by the death of my dear friend Dr. Habershon. From intimate and long acquaintance and association with him, both as a colleague at Guy's Hospital and in private practice, I learnt to appreciate and to value his character more highly than I can say. Genuine, upright, honest, kind, and considerate, his personal qualifications endeared him to his friends and patients; while his ability, experience, and careful and thorough method of examination secured for him the confidence of his professional allies in his judgment and advice."

Dr. Habershon's position in the profession was the outcome of his own exertions and hard work. Coming up to London as he did when a mere boy, without influence or medical friends, his studious habits and power of application to work soon gained for him a thorough mastery of each branch of his profession, resulting, as we have seen, in an exceptionally distinguished career. The early years of his connexion with Guy's Hospital as a teacher were mainly spent in the anatomical school, the post-mortem room, and the museum. Such a training made use of by a man of conspicuous ability, stood him in good stead in after life. His beautiful and careful dissections, and excellent knowledge of anatomy, his many years of pathological research, formed the basis of much good and sound work. As a writer the books and numerous papers from his pen are of much value, recording as they do the result of years of careful clinical observation and experience. The Guy's Hospital Reports, from the year 1855 to 1872, contain a series of twenty-eight papers written by him. Other articles are published in the Medico-Chirurgical Society's Transactions, THE LANCET, and other medical journals. His most important contributions, however, to medical literature, and those by which his reputation was chiefly made, are: "On Diseases of the Abdomen," published first in 1857 (fourth edition, 1888—also published in America); "On Diseases of the Stomach" (third edition, 1879); "On Some Diseases of the Liver" (Lettsomian Lectures, 1872); "On the Pathology of the Pneumogastric Nerve" (Lumleian Lectures, 1876; translated into Italian, 1879); "On the Injurious Effects of Mercury in Disease."

Widely known as an authority on abdominal disease, Dr. Habershon had an extensive practice. In his methods of treatment he was gentle and opposed to strong or heroic measures, and yet in exceptional cases he was not slow to recommend them, and it is worthy of record that he was the first in England to propose the operation of gastrostomy for stricture of the œsophagus, which was performed, at his suggestion, upon a patient of his by the late Mr. Cooper Forster in 1858. The operation, of course, has since been frequently performed with success in other cases. Though by nature quiet and retiring, Dr. Habershon's influence was a strong one. In the councils of the College of Physicians his opinions were always listened to with respect, and his influence carried weight. Sir William Jenner, during whose presidency he held several of the

highest offices, pays the following tribute to his memory: "Dr. Habershon's death is a great loss to the profession. The College of Physicians had no Fellow more sensible, more worthy, or more honourable. As a consultant his professional brethren felt they could repose full confidence in his judgment and in the uprightness of his conduct, while the public justly trusted his ability, skill, and probity."

A man of strong religious convictions, Dr. Habershon engaged in many works of philanthropic interest. As far back as the year 1849 he assisted the Darby-street Ragged School, and afterwards became its valued and devoted superintendent. Later, when he moved from the City to the West-end, he did not relax his useful efforts, and continued almost up to the time of his death in Christian work amongst the poor of his neighbourhood. Even where he was unable to give his personal services he was a generous supporter and staunch friend of many charitable institutions. But his influence for good was also prominently felt by those with whom he came in contact in the midst of his public and professional duties. The wisdom and kindliness of his advice, the force of his example, and his consistent fearless and honourable character were universally recognised. "He was always a very great favourite with the students of his hospital, and was looked up to as a careful and painstaking clinical teacher, and on going round the wards he had always a large and appreciative following. Very many of them esteemed and loved him, because they felt that he had always their best interests at heart. And when, as one of the originators of the Christian Medical Association, he invited to his house on Sunday afternoons the students of Guy's and St. Thomas's Hospitals, they were so impressed with his sincere and heartfelt words, so free from anything like cant, that they could not but feel that he was a true friend interested in their welfare for this world and the next." Such at least is the opinion of one who, as a pupil, knew him well in those days, and continued throughout his life to be a warm and sincere friend.

Dr. Habershon was never a robust man, but, with the exception of one serious illness some years ago, enjoyed good health until within eighteen months of his death. Several times during last year he suffered from severe dyspeptic attacks, but the cause of his malady was not suspected until he was prostrated in November by severe hæmatemesis. During this illness he was attended by Sir William Jenner, in conjunction with Dr. Gilbart-Smith and his son Dr. Herbert Habershon. Recovering in great measure, he resumed his work, but the death of Mrs. Habershon in April, and the mental shock consequent upon it, undermined his health and resulted in a return of his disease. Hæmorrhage from the stomach again appeared on July 9th, and he was again confined to his bed. Repeated hæmorrhages reduced his strength, and in spite of the skill and unremitting care of his medical friends and advisers, Dr. Andrew, Sir A. Garrod, Dr. Gilbart-Smith, and the nursing of his son, he died on Aug. 22nd at his residence in Brook-street of simple ulceration of the stomach. It is not a little remarkable that he should have thus succumbed to a disease upon which he was undoubtedly one of the first authorities.

Dr. Habershon leaves a son and three daughters.

DR. PHILIPPE RICORD.

ONE of the most illustrious characters of the age has just passed away in the person of Dr. Philippe Ricord, who died on the 22nd inst. after a few days' illness of pneumonia. He was born at Baltimore on Dec. 10th, 1800. At the age of twenty years Philippe Ricord arrived in Paris, was soon after admitted to the Internat, followed the lectures of Dupuytren and of Lisfranc, and obtained the Doctorate of the Faculty of Medicine in 1826. Being in poor circumstances, and, as he found it hard to live in Paris, he went to the provinces, whence, after having had a successful practice, he returned to Paris in 1888. He immediately entered the Concours for the Bureau Central of the hospitals. He was admitted first on the list, and was attached to the Pitié Hospital as surgeon, where during two years he lived with the produce of lectures for which he was paid. Three years later (in 1831) he was appointed principal medical officer of the Hôpital Midi, which is reserved for the treatment of venereal affections in the male sex. From this time a promising career was opened to him. He soon acquired a world-wide reputation on the subject of venereal diseases, and he was always considered the highest authority on that class of affections. His private consultations were very remarkable. He had several waiting-rooms in his house for the reception of the different categories of patients who called on him. He had a clever footman, who at first sight knew how to classify the clients. There were waiting-rooms reserved for ladies apart from those for gentlemen. Ricord was of a very generous turn of mind, for he not only gave his services gratuitously to those who could not afford to pay his fee, but he would help them if they were in need. He was courteous and affable, and full of wit, and had an encouraging word for each of his patients, whatever his position in life. He was a man of strong build, and, notwithstanding his advanced years, was very vigorous until quite lately, when his strong constitution began to give way, but his mental faculties were sound till near the last moments of his life. He was the Doyen of the Academy of Medicine, to which he was elected member in 1850, and of which he was once elected its President. Ricord received many honours. In 1860 he was promoted to the dignity of Commander of the Legion of Honour, and in June, 1871, M. Thiers conferred on him the grade of Grand Officer of the Legion of Honour in recognition of his services at the Ambulances during the siege of Paris. He had received more than two hundred decorations from different foreign Governments throughout the world. It was in fulfilling his duty as a loyal citizen that he contracted the malady which proved fatal to him. On the day of the general elections, on the 6th of October, he came to Paris from Versailles, where he generally spent his summer, in order to deposit his vote in the urn, and immediately started to return to Versailles, but being late for the train he waited an hour at the station for the next train. In thus waiting at the station he took a cold and had to return to his home in Paris. He then had symptoms of pulmonary congestion, which, however, subsided; when on Thursday week last he went down to his garden, and during the night was seized with symptoms of pneumonia, which carried him off on the morning of the 22nd inst. at three o'clock. He was most assiduously attended by Drs. Potain and Bouchut and others of his medical friends and former pupils. For two or three days before his death his flagging strength was kept up by inhalations of oxygen. During the course of Monday alone the patient was made to inhale 800 litres of oxygen. Until seven o'clock in the evening he had full possession of his mental faculties, and was able now and then to speak to Dr. Potain, who was by his bedside, but from that hour he never uttered a word, and expired at three o'clock on Tuesday morning. His funeral takes place to-day (Saturday) at Père la Chaise.

1828

DR. CHARLES ROYSTON.

WE regret to have to record the death, at his residence in Bayswater, of Dr. Charles Royston, under circumstances to a peculiarly sad and painful nature. The deceased, who was about to marry again, was found dead in his bed on the morning of the 15th inst., and at the subsequent inquest the jury returned a verdict, "That the deceased died from an overdose of prussic acid self-administered while suffering from intense mental excitement and severe physical suffering." We are informed that Dr. Royston had of late been passing through a condition of mind in which excitement alternated with fits of depression, in addition to which he had, for some weeks past, although unknown to his relations, been a victim to insomnia. The post-mortem examination showed that the deceased suffered from an abscess on the gall bladder, the pain from which undoubtedly induced a condition of mind which rendered him unable to face trivial worries, which at other times he would have lightly dismissed. A solemn funeral service was held in St. Stephen's Church, Westbourne Park, and the signs of mourning were general throughout the parish, in which the deceased had been a long and respected resident.

METROPOLITAN POLICE SURGEONS' ASSOCIATION. The annual dinner of this Association will take place at the Criterion Restaurant on Thursday, Nov. 14th, at 7 o'clock.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation, held on the 17th inst., the following degrees were conferred:

Bachelors of Medicine.—Eustace John Parke Olive, St. John's; Eustace Henry Lipscomb, Gonville and Caius; Albert Charles Elsmore, Christ's; Arthur Court, Cavendish Hostel.

Bachelor of Surgery.—Edward Henry Douty, King's.

The Examiners in State Medicine have issued the following list of those examined and approved for both parts of the examination, who are entitled to a diploma certifying to their competent knowledge of what is required for the duties of a medical officer of health. All those approved are on the Medical Register of the United Kingdom:—

F. E. Adams, A. Ambrose, A. R. S. Anderson, C. J. Ayres, G. R. Beardmore, J. T. Calvert, J. W. Campbell, A. K. Chalmers, E. H. Colbeck, H. D. S. Compigné, W. Cotton, A. M. Davies, U. K. Dutt, J. H. Garrett, H. C. M. Gibson, J. Glaister, J. E. Gould, W. Gruggen, W. Jackson, J. R. Kaye, C. S. Kilner, R. Laing, J. Loane, C. R. Macdonald, W. A. Macnaughton, R. M'Niell, J. Nall, R. L. Roberts, D. Roxburgh, A. F. Street, J. Taylor, G. T. Thomas, G. M. Thompson, C. B. Voisey, G. H. Weston.

Dr. Norman Moore, of St. Catharine's College, has been appointed Assessor to the Regius Professor of Physic.

Dr. W. M. Orr, of London, was appointed an examiner in Medicine, and, in consequence of the large number of candidates for the examination in State Medicine, Dr. Carpenter, of London, and Mr. George Turner, lecturer on hygiene at Guy's Hospital, London, were appointed additional examiners.

UNIVERSITY OF GLASGOW.—The following gentlemen have passed the First Professional Examination for the degrees of M.B. and C.M:—

James Alexander Aitken, Robert Hugh Allen, Thomas Barrowman, John James Boyd, Wm. Brodie Brodie, William Mackenzie Brown, Walter Isaac Buchanan, Archibald Prentice Campbell, Jas. Carslaw, M.A., David Charters, Charles Edward Cochrane, James Cochrane, Henry Adolf Cohrs, Alex. Dalrymple Cuthbert, Henry Davies, David Alexander Dewar, Archd. Smith Dick, John Donald, Alexander Edwards, Alex. Robert Ferguson, Andrew Findlay, Alfred Forrest, John James Fraser, Wm. Fulton, Wm. Sprott, Alex. Galt, Thomas Adams Stewart Gibb, Charles L. S. Gibson, David Wyllie Girvan, Daniel M'Intyre Glen, Robert Guy, Walter Buchanan Hastings, Ernst Denny Scott Heyliger, Campbell Highet, James Hogg, John Lindsay Howie, James Jack, John Kennedy, George Lawson Kerr, Hugh Kerr, M.A., Thomas Kirkwood, M.A., Thomas Donald Laird, David Lewis, John Lindsay, William Lowe, James Marr, Robert M'Farlane Marshall, David Ramsay Miller, James Moffat, James Donald Rae Monro, John Morton, William M'Niven Muat, Alex. Christie M'Arthur, Colin Campbell M'Call, Arthur Wellesley M'Clelland, Alex. Hutchison M'Cracken, Duncan M'Donald, John M'Donald, M.A., Malcolm Macnicol, M.A., Alex. Stewart M'Pherson, Peter Carmichael M'Robert, William M'Walter, Robert E. Newton, John Paterson, M.A., John Paxton, James Pettigrew, Wm. John Richard, M.A., James Jenkins Robb, James Bryce Robertson, Leonard Alfred Rowden, Thos. Leadbetter Shields, Francis Small, George Smith, M.A., James Smyth, John Barr Stevens, Nathaniel Stevenson, M.A., Charles Stewart, William Stiell, David Robert Thomson Strong, Robert Taylor, John Hammond Teacher, M.A., David Wallace, Andrew Wauchope, Hope Wellis, Charles Wilson, Robert Wilson, Alfred Alexander Young, M.A., Jas. Murray Young, John Cameron Young, William Semple Young.

The following have passed the Second Professional Examination:—

William H. M. Alexander, William Clachan Allardice, William Anderson, Robt. Bishop, Peter Otho Watkin Browne, Adam Guthrie Burrell, David Birrell Campbell, Niel Campbell, Andrew Cluckie, Charles Edward Cochrane, Robert Cochrane, Alex. Baillie Craig, John Alexander Creighton, Hugh Colligan Donald, James Gray Duncanson, Alfred Ernest Evans, John Falconer, William B. O. Ferguson, David Frame, M.A., Thos. James Freeman, Hugh Galt, Edwin Arthur Gibson, John Green, David Harries, Wm. Sandilands Harrison, Robert Home Henderson, William Moffat Holmes, Robt. King Howat, William Jackson, Robert James, David Clark Laird, Peter Alexander Laird, David Lamb, John Wm. Logie, Robert Alex. E. Lowry, Samuel T. M'Clintock Lowry, Robert Mortimer Malcolm, John Miller, Robert Moir, Percy Hope Murray, William Murray, Robert M'Ghie, John M'Gregor, Charles Hugh M'Ilraith, M.A., Alexander L. M'Leod, M.A., Robert Wm. Nairn, James Henderson Naismith, Gilbert Park, Robert Ramsey, Archibald George Saunders, David Smith, Maurice Tancred Stack, Geo. Clark Stewart, Geo. Mervyn Sydenham, Daniel M. Taylor, M.A., William Risk Thomson, M.A., James Todd, Ebenezer Turner, Wm. Watson, Hope Wellis, John Whitehouse, William Young, John Yuill.

The following have passed the Third Professional Examination, including, in the cases marked with asterisks, the subject of Pathology:—

Peter Henderson Abercrombie, John Adam, John Wilson Adam, *Alexander Percy Agnew, *James Alexander, *Thomas Primrose Anderson, James Barr, Robert Burns, William Butler, *Matthew Cameron, James Hamilton Campbell, *John Monro Campbell, Archibald Chalmers, M.A., *Jas. Chalmers, Jas. Easton Chalmers, John Cochrane, Samuel Cockburn, James Cordiner, M.A., William Craik, William Crichton, Peter Drummond, M.A., *George Henry Edington, *David H. Fotheringham, M.A., *James Fisher Frew, Robert Girdwood, Andrew Goldie, *Charles Herbert Hall, *James Hill, Anthony Inglis, George Scott Jackson, *Gilbert Petgrave Johnson, James Kirkwood, *John Lithgow, Matthew Lochhead, *James Rowatt Logan, *George Agnew Main, William Mason, John Wilson Mathie, *Alexander Goodsir Mowat, M.A., *James Muir, *David M'Donald, *Wm. Dove Macfarlane, Duncan Otto M'Gregor, Hugh Macintyre, Neil Macintyre, *Daniel M'Kenzie, John Norman MacLeod, M.A., *James Gibson M'Naught, M.A., James Niven, William Park (Beith), *William Park (Kilmarnock),* Peter Paterson, Edward Ley Paton, M.A., *John Pollock, Brownlow Riddell, William Roberton, Alex. Marshall Roy, Charles Francis Scott, *Archibald Shaw, *William M'Gill Smith, Rodk. Tate Sutherland, Lewis Dunbar Temple, *John M'Donald Vallance, *James Sim Wallace, B.Sc., Wm. Thompson Merry Wallace, Andrew Watson, John Watt, *Alex. David Wilson, James Alex. Wilson, *Andrew Wylie, Hugh Corbett Taylor Young, John Zuill, M.A.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates, having passed the qualifying examination in Medicine, Surgery, and Midwifery, have received certificates entitling them to practise in the same, and have been admitted as Licentiates of the Society on Oct. 10th:—

Collett, Henry George Outram, King's College.

On the 16th:—

Bristow, George Hamilton, St. Thomas's Hospital.
Cornilliac, Joseph, King's College Hospital.
Dawber, John Henry (B.A. Oxon.), Middlesex Hospital.
Lory, Arthur George Bateman, London Hospital.
McInerny, John, College of Physicians and Surg., New York.
Neville, Evan James, King's College Hospital.
Pritchard, Edward Josiah, Westminster Hospital.
Wilson, Helen Mary, Royal Free Hospital.

On the 17th:—

West, William Frederick, St. Bartholomew's Hospital.

COLLEGE OF PHYSICIANS IN IRELAND.—At the October Examinations the following gentlemen obtained the Licences in Medicine and Midwifery of the College:—

Medicine.—Philip Cormack, Sydney Fielder, Frederick Wm. Smith Stone.

Midwifery.—Philip Cormack, Frederick William Smith Stone.

The undernamed was admitted a Member:—

Edward Young, F.R.C.S.I.

CONJOINT SCHEME OF THE COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—The following gentlemen have passed the First Professional Examination:—

E. A. Chartres, W. Coneys, J. G. Crozier, J. Flemming, J. E. Fox, R. P. Goode, J. V. Griffin, H. Hunt, R. D. Jephson, D. T. Kelly E. Kennedy, M. Kiely, E. J. King, P. J. Long, J. F. Maguire, J. P. Marnell, P. Merrin, C. E. Murphy, J. P. McCormack, H. McFadden, H. Nash, H. F. Nolan, J. C. O'Malley, M. K. Quinlan, C. M. Richards, J. Robinson, J. F. Sheppard, J. Skelly.

UNIVERSITY OF DURHAM.—At a convocation held on the 22nd inst., the degree of M.D. was conferred on Barrington Syer White.

SANITATION IN BOKHARA.—The Ameer of Bokhara has, it is stated, in consequence of his recent visit to Chardjui, ordered that the sanitation of his capital shall be scientifically inquired into and improved.

ST. LUCIA is unprovided with a lunatic asylum, the expense of providing one being an insuperable difficulty. Madmen have now to be attended at their own homes and watched by their own families.

FOOTBALL ACCIDENT.—A man named Dybull, who was goalkeeper, whilst playing at football, under Association rules, at Scarborough on Saturday, was accidentally knocked down by a player of the opposing team and had his leg broken.

INSANITARY DWELLINGS.—At an extraordinary meeting of the Islington Vestry held on the 18th inst., several houses in Nelson-place and Aston-buildings, Holloway-road, were, in accordance with the report of the medical officer of health and the Vestry's surveyor, ordered to be demolished.

COLLEGE OF PHYSICIANS IN IRELAND.—At a meeting of the Fellows, held on St. Luke's Day (18th inst.), the following office-bearers were elected for the ensuing year:—President: L. Atthill. Vice-president: George F. Duffey. Censors: G. F. Duffey, Joseph Redmond, Andrew Horne, W. Beatty. Additional Examiners: J. H. Benson (Medicine), E. Cosgrave (Medical Jurisprudence and Hygiene). Midwifery: W. J. Smyly. Examiners for License in Midwifery: Andrew Horne, W. J. Smyly. Examiners under the Conjoint Scheme.—Chemistry and Physics: Isaac Ashe, Henry Bewley. Materia Medica and Pharmacy: E. Cosgrave, F. Quinlan. Physiology: J. M.

Purser. Medicine: G. F. Duffey, Arthur Foot, C. J. Nixon, W. Beatty. Hygiene and Forensic Medicine: John Molony, Joseph M. Redmond. Examiners for the Membership.—Clinical Medicine: George F. Duffey, J. H. Benson. Pathology: H. T. Bewley, John M. Purser. Practice of Medicine and Public Health: W. Beatty, E. McDowel Cosgrave. Examiners for Diploma in State Medicine.—Chemistry: W. G. Smith. Climatology, Meteorology, and the Geographical Distribution of Disease: J. William Moore. Vital Statistics: S. MacSwiney. Hygiene: C. Nixon. Medical Jurisprudence and Pathological Anatomy in relation thereto: G. F. Duffey. Representative on the General Medical Council: L. Atthill. Treasurer: A. Smith. Registrar: John W. Moore. Elected to the Fellowship: Henry C. Tweedy.

MEXBOROUGH COTTAGE HOSPITAL.—The committee who are furthering this scheme met again on the 12th inst. The movement is rapidly approaching completion in every respect, and the old school-room is being transformed into the requirements of a hospital, under the superintendence of Mr. G. White, agent of Mr. Montagu, who has given the building and is meeting the cost of the alterations.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The autumnal general meeting of the Association will be held at 11, Chandos-street, Cavendish-square, London, W., on Thursday, Nov. 7th, at 5 P.M. In addition to other business, an alteration of Rule VII. will be proposed by the Chairman of Council. On the same evening the Association will dine at the Holborn Restaurant, at 7 P.M., Dr. Fegan, President, in the chair.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—Sir Risdon Bennett, M.D., F.R.S., will deliver an introductory address on Monday, Oct. 28th, at the Victoria-park Hospital. Clinical lectures and demonstrations will take place at weekly intervals, commencing Thursday, Nov. 7th, and ending Thursday, Dec. 12th, the lecturers being Dr. Thorowgood, Dr. Heron, Dr. Vincent Harris, and Dr. Ormerod. Full particulars can be obtained by application to Dr. H. Sainsbury, Victoria-park Hospital, E.

BRIDGWATER INFIRMARY.—The report submitted to the annual meeting of the subscribers on the 17th inst., which was adopted, was satisfactory alike in the good work done during the year as well as the financial condition of the institution. In the past year 258 in-patients and 1746 out-patients had received treatment, the largest number recorded for many years. The statement of receipts and disbursements showed a balance in hand of £161 4*s.* 6*d.*, against £45 brought over at the commencement of the year.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The next quarterly meeting of the Medico-Psychological Association will be held at Bethlem Royal Hospital, on Wednesday, Nov. 6th, at 4 P.M. A paper will be read by Drs. Dodds, Strahan, and Greenlees, on "Assistant Medical Officers in Asylums; their Status in the Specialty." Dr. Baker will show and describe a new form of urinal and a fireguard with spring lock in use at the Retreat, York; also an inspection plate for asylum doors, and marble tiling for Turkish baths. Pathological specimens will also be exhibited.

BEQUESTS AND DONATIONS TO HOSPITALS.—By the will of the late Miss E. M. Jowitt, of Woodfield, Potternewton, the following bequests are made, free of legacy duty: To the Leeds General Infirmary, £500; Edinburgh Medical Missionary Society; £500 and the Zenana Bible and Medical Mission, £300.—Mr. Hamilton Hoare, of Fleet-street, London, has given a donation of £50 to the Royal Hospital for Diseases of the Chest, City-road; and a lady has sent a donation of 50 guineas to the same institution.—The late Mr. Stafford Henry Northcote, of 120, Belgrave-road, Pimlico, has bequeathed £100 to the Royal Free Hospital, Gray's-inn-road, London.—Miss E. Ansted, late of Brooklands, Landford, Wilts, has left by her will £100 each to the Salisbury Infirmary and the British Home for Incurables, Clapham-rise, and £20 to the City of London Lying-in Hospital.—Mrs. Blomfield Moore has given £500 as a thankoffering to the Samaritan Free Hospital for Women and Children, London.—The late Misses Eliza and Jessie Lochore of Minerva Lodge, Lenzie, have bequeathed, free of legacy duty, £300 each to the Glasgow Royal Infirmary and the Glasgow Western Infirmary; £200 to the Glasgow Royal Sick Children's Hospital; £100 each to the Eastpark Cottage Homes and the Lenzie Convalescent Home; £50 each to the Glasgow Eye Infirmary and the Glasgow Medical Mission.—An anonymous donation of £50 has been received by the Governors of the Devonshire Hospital at Buxton.—The Secretary of the Cardiff Infirmary has received £5 from the Cardiff United Bicycle Club.

PROPOSED NEW HOSPITAL AT STAFFORD.—An influential meeting has been held at the Guildhall, Stafford, under the presidency of the Earl of Harrowby, for the purpose of deciding upon the advisability of erecting a new hospital in place of the present one, which has been in existence for 120 years. A committee of investigation had recommended that a new building should be provided on a new site, whereby it was estimated that a considerable saving would be effected. It was believed that for a sum of £10,000 a model hospital could be built, providing accommodation for eighty persons. It was recommended that the sum of £5000 be raised by public subscription, the remaining £5000 being realised for the old building. A motion that the work for the erection of a new hospital be proceeded with was then carried, and a committee was appointed to that end.

UNIVERSITY COLLEGE, DUNDEE.—At the annual meeting of the governors of this College, the report of the Council, which was adopted, stated that £9000 had been promised for the endowment and equipment of a chair of Physiology, and that, although a further sum of £6000 was required to properly endow the chair, yet, looking to the importance of the medical school being equipped as speedily as possible, the Council had resolved to proceed with the appointment of a professor. The financial statement showed that the debt of the College had been increased from £5000 to £6500, and the Council appealed for donations to wipe off the balance outstanding against the College. The Rev. Colin Campbell said it was gratifying to find that while the number of students was increasing, the students were taking a continuous course. He thought sufficient reasons could be advanced to warrant them proceeding to teach the subject of physiology even with a partial endowment. Unless some provisions were made for the teaching of physiology at present, not only would the anatomy students be left in a state of suspended animation, but the Council would labour under the disadvantage of their students departing to Edinburgh, where they could complete the education they desired.

BERLIN VITAL STATISTICS.—In the week from Sept. 15th to Sept. 21st, 862 children were born alive in Berlin, 109 of whom were illegitimate; 31 were born dead, including 3 illegitimate. The number of deaths was 501. Six died of scarlet fever, 1 of enteric, 30 of diphtheria, 1 of quinsy, 7 of whooping-cough, 3 of puerperal fever, 5 of typhus, 1 of syphilis, 12 of old age, 12 of cerebral apoplexy, 23 of inflammation of the lungs, 82 of consumption, 29 of diarrhœa, 24 of cholera nostras, 12 of intestinal catarrh, and 1 of delirium tremens. The number of violent deaths was 19, 1 by burning or scalding, 3 by drowning, 4 by hanging, 1 by suffocation, 2 by running over, 4 by falls or blows, and 4 by shots. Eleven of these deaths were suicides. Of the deceased 174 were under one year, 58 from one to five years, 26 from five to fifteen, 11 from fifteen to twenty, 28 from twenty to thirty, 39 from thirty to forty, 97 from forty to sixty, 60 from sixty to eighty, and 8 over eighty; 137 died in hospitals, including 14 who had come from other places to be treated here. The death-rate for the said week was 17·4 per 1000 of the total population of 1,500,103. The death-rate in the same week in Aix-la-Chapelle was 27·8 per 1000; in Altona, 16·3; in Breslau, 27·4; in Chemnitz, 23·6; in Dantzic, 20·9; in Dresden, 18·3; in Düsseldorf, 18·9; in Elberfeld, 16·2; in Frankfort-on-the-Main, 20·2; in Hamburg and suburbs, 20·3; in Hanover, 21·2; in Cologne, 20·3; in Königsberg, 26·2; in Krefeld, 12·7; in Leipsic, 19·3; in Magdeburg, 16·3; in Munich, 28·3; in Nürnberg, 24; in Stettin, 25·7; in Strasburg, 22·6; and in Stuttgart, 17. The death-rate in London in the same week was 15·2; in Paris, 21·5; in Liverpool, 18·9; in Dublin, 28·5; and in Amsterdam, 16·5.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on October 22nd, 1889.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever	Other diseases.	Total.	
Eastern Hospital	225	56	..	55	..	336	442
North-Western Hospital	210	18	..	7	..	235	415
Western ,,	156	13	..	5	..	174	262
South-Western ,,	60	..	..	..	1	61	402
South-Eastern ,,	288	16	1	27	2	334	462
Northern ,,	432	..	..	..	..	432	480
Totals	1371	103	1	94	3	1572	2463

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

CADDY, ARNOLD, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Leeds General Infirmary.

DANIEL, W. P., L.S.A., has been appointed Assistant House Surgeon to the Female Lock Hospital and Asylum, Harrow-road, W., vice H. J. L. Bullen, resigned.

DAVIES, D. S., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer, Bristol Port.

ESLER, R., M.D., M.Ch., L.M., Q.U.I., has been appointed Divisional Surgeon to the Metropolitan Police P Division, vice P. G. Philps, M.R.C.S., resigned.

EWENS, G. FRANCIS W., M.D., has been appointed Honorary Physician to the St. Pancras and Great Northern Dispensary, Highgate.

FLEMING, R. M., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of the Holbrook District, Samford Union.

HEAVEN, J. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Assistant Medical Officer, Bristol Port.

MEIGHAN, T. S., M.D., M.B., C.M. Glas., has been appointed Professor of Ophthalmic Surgery, Anderson's College Medical School, Glasgow.

MILLER, J. T. ROGER, L.S.A. Lond., has been appointed District Medical Officer and Public Vaccinator for the Leavening District of the Malton Union, vice Wm. Deeley, M.D., L.K.Q.C.P.I., resigned.

MOORE, A. J., M.R.C.S., L.S.A., has been reappointed Medical Officer of the Parish of St. Lawrence, Reading Union.

OGLE, C. J., M.R.C.S., L.S.A., Anæsthetist to the Gordon Hospital for Fistula, &c., has been appointed Surgeon, vice the late Mr. Benton.

ORD, WM. THEOPHILUS, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator to the Halesowen District of the Stourbridge Union, vice T. McLauchlan, M.B. Edin., resigned.

PARSONS, F. J. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer for the Port Sanitary Authority, Bridgwater.

POLLOCK, R., M.B., C.M., F.F.P.S. Glas., has been appointed Medical Officer of the Burgh of Pollokshields, Glasgow.

SNADDEN, JAMES, M.B., C.M. Edin., has been reappointed Medical Officer No. 4 District, Wortley Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

CENTRAL LONDON SICK ASYLUM DISTRICT, Cleveland-street Asylum, Cleveland-street, W.—Assistant Medical Officer and Dispenser. Salary £100 per annum, with board and residence.

CHARING-CROSS HOSPITAL, London.—Surgical Registrar, for one year, at a salary of £40, but the holder is eligible for re-election.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months. Also Resident Medical Officer. Salary £100 per annum, with board &c.

COUNTY BOROUGH OF HUDDERSFIELD.—Medical Officer of Health for the Borough and Urban Sanitary District of Huddersfield. Salary £400 per annum, with actual disbursements in addition.

GLOUCESTER FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Locum Tenens, out-door.

GORDON HOSPITAL FOR FISTULA &C., 278, Vauxhall-bridge-road, S.W.—Assistant Surgeon.

LEICESTER INFIRMARY AND FEVER HOUSE.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

LIVERPOOL DISPENSARY, 34, Moorfields, Liverpool.—Two Assistant Surgeons. Salary £80 per annum each, together with apartments, board, and attendance.

LIVERPOOL ROYAL INFIRMARY.—Honorary Surgeon.

MIDDLESEX HOSPITAL, W.—Second Chloroformist to the Hospital.

NORTH RIDING INFIRMARY, Middlesborough-on-Tees.—House Surgeon.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Junior Resident Medical Officer for six months.

PARISH OF EDAY, Orkney, to Inspector of Poor.—Resident Medical Officer. Salary £70 a year and practice.

PARISH OF THE UNITED PARISHES OF WHITTLESEY.—District Medical Officer and Public Vaccinator. The Medical District comprises the northern portion of the parish; the Vaccination District comprises the outlying portion of the parish. The salary as District Medical Officer will be £70 per annum, with the usual extra medical fees for midwifery and surgical cases. The fees for vaccination and revaccination will respectively be 3*s.* and 2*s.* per case.

PARKER DIXON, Esq., Solicitor, 13, Gray's-inn-square, London.—Assistant Medical Officer, in a large Metropolitan Lunatic Asylum. Salary to begin at £100 a year, with board, lodging, washing, &c.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, London, E.C.—Clinical and Junior Assistants. The former for one year, but the officer is re-eligible, and the Junior Assistants for six months, also re-eligible.

SALISBURY INFIRMARY.—A Dispenser. Salary £105 per annum; out of doors.

SALOP INFIRMARY, Shrewsbury.—House Surgeon. Salary £100 per annum, with board and residence.

SOUTH-WESTERN FEVER HOSPITAL, Landor-road, Stockwell, S.W.—Two Clinical Assistants. The remuneration is limited to residence and rations.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W. Ophthalmic Surgeon.

WEST BROMWICH DISTRICT HOSPITAL.—House Surgeon. Salary £80 per annum, with board, residence, and washing. Also Assistant to the House Surgeon. No salary, but board, residence, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

ALEXANDER.—On Oct. 21st, at the London County Asylum, Hanwell, W., the wife of Dr. Robert Reid Alexander, of a daughter.

COLLIER.—On Oct. 12th, at High-street, Oxford, the wife of W. Collier, M.D., of a son.

DONKIN.—On Oct. 21st, at South-hill-park, Hampstead, the wife of Charles Donkin, L.R.C.P. Edin., of a daughter.

FRANCIS.—On Sept. 3rd, at Sooke, near Victoria, Vancouver Island, the wife of Harry A. Francis, L.R.C.P., M.R.C.S., of a daughter.

HUNT.—On Oct. 20th, at Crouched Friars, Colchester, the wife of Edgar A. Hunt, surgeon, of a son, prematurely, stillborn.

KIDD.—On Oct. 18th, at Brook-street, Grosvenor-square, the wife of Percy Kidd, M.D., F.R.C.P., of a son.

MAC COMBIE.—On Oct. 19th, at the Hospital, Hatfield-street, New-cross, the wife of Dr. John Mac Combie, of a daughter.

PERN.—On Oct. 16th, at Botley, Hants, the wife of Alfred Pern, F.R.C.S., of a son.

WARREN.—On Oct. 19th, at New Brompton, Kent, the wife of E. C. Warren, surgeon, of a daughter.

MARRIAGES.

CAVENAGH—WHITEHEAD.—On Oct. 9th, at Haslingden, John Paul Cavenagh, of Hull, L.K.Q.C.P.I., L.R.C.S.I., to Annabella, second daughter of Thomas Hoyle Whitehead, Esq., J.P., Holly Mount, Rawtenstall, Lancashire.

COLLINS—POTTS.—On Oct. 16th, at the Parish Church, Broseley, George Duppa Collins, M.R.C.S., L.S.A., to Selina, youngest daughter of the late George Potts, Esq., solicitor, Broseley.

HAYES—BARRY.—On Oct. 16th, at Ballyadam, Patrick Aloysius Hayes, Surgeon-Major Medical Staff, to Edith, second daughter of the late Wm. H. Barry, Esq., J.P., Ballyadam, Carrigtohill.

MARSHALL—DONALD.—On Sept. 25th, at St. Mary's, Bathwick, Bath, by the Rev. Colmer Godwin, curate of Christ Church, Torquay, Arthur Lumsden Marshall, M.A., M.B. Cantab., fourth son of Major-General W. B. Marshall, late Royal (Bengal) Artillery, to Margaret Minnie Helen, youngest daughter of the late John Donald, Deputy Inspector-General of Military Hospitals, and late of the 24th Regiment.

ROBERTSON—COPELAND.—On Oct. 22nd, at the Parish Church of Rainton, by the Venerable Archdeacon of Durham, assisted by the Rev. Hugh McNeil Minton-Lenhouse, M.A., Rector of Tillingstone Lovell, brother-in-law of the bride, Cecil Robertson, M.B., C.M., Smeeston, Somerset, son of W. P. Robertson, Esq., of Aberdeen, to Mabel Beatrice, third daughter of the Rev. G. Dale Copeland, B.D., Rector of Rainton.

DEATHS.

DAVIDSON.—On Oct. 17th, at Culross Park, Culross, Perthshire, Robert Halkerston Davidson, M.D., late Deputy Inspector-General of Hospitals of Her Majesty's Indian Army, Bombay.

GROSVENOR.—On Oct. 7th, at Ladbroke-grove, Notting-hill, George Fox Grosvenor, M.D., eldest son of the late William Grosvenor, Esq., aged 61.

JOHNSTONE.—On Oct. 19th, at his residence, High View, Ramsgate, Henry James W. Johnstone, F.R.C.S. and J.P., eldest son of the late James Johnstone, M.D., Physician to King William the Fourth.

LAWTON.—On Oct. 19th, at 136, York-road, Lambeth, Richard Lawton, aged 87.

LEON.—On Oct. 19th, at Redcliffe-gardens, S.W., Hananel de Leon, M.D., formerly of Kingston, Jamaica, aged 92.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, October 24th, 1889.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia. in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Oct. 18	29·69	S.E.	48	47	74	57	46	..	Foggy
,, 19	29·10	N.E.	51	50	59	54	47	·06	Overcast
,, 20	29·22	S.W.	50	50	63	55	49	·66	Raining
,, 21	29·32	S.E.	49	48	55	52	47	·18	Foggy
,, 22	29·37	S.E.	50	49	60	54	47	·34	Overcast
,, 23	29·62	E.	49	48	59	53	47	·02	Overcast
,, 24	30·01	N.	48	47	57	50	47	·06	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

A NEW TITLE FOR THE NEW ORDER OF APOTHECARIES.

WE have received several communications on this subject, the new apothecaries evidently desiring strongly a title expressive of their larger qualifications. Mr. A. R. Willson, of the Radcliffe Infirmary, Oxford, argues that as the new qualification is called a "Diploma in Medicine, Surgery, and Midwifery," and certifies competency to practise in all these branches, the holder is not sufficiently described by the title L.S.A. He argues from the above facts that their legal title is Dipl. in Med., Chir., & Obstet., L.S.A., and this is the description he advises every new licentiate to adopt. Mr. R. R. Sleman, of 7, St. Benet's-place, E.C., forwards us a form of petition to the General Medical Council to give the new licentiates "such title or titles as will convey to everyone the increased scientific status which such further study must necessarily confer." We should advise the new licentiates to take counsel with themselves and with the authorities of the Society before petitioning the Medical Council. The Medical Council has no power, we apprehend, to confer new titles. It is for the Society or its members to procure an alteration of the law that will allow the Council to register new licentiates under a juster title. The Council might be asked again to favour such a reasonable amendment of the law; but the simpler the language in which such a request is couched the better.

Mr. James Wigg.—1. The membership of the Royal College of Surgeons, England, did not confer a qualification in medicine before the Conjoint Scheme.—2. The licence of the College of Physicians, London, did confer a qualification in surgery before the Conjoint Scheme.

E. F. F.—1. The appointments are in the hands of the chairman of the Prisons Department, Sir Edmund Du Cane.—2. The Crown Agents for the Colonies, Downing-street, S.W.

Jeyes' Sanitary Compounds Co.—The matter shall receive attention.

TOUTING AMONGST FAITH-HEALERS.

To the Editors of THE LANCET.

SIRS,—The following exact copy of a letter recently addressed to a lady patient of mine may amuse and interest your readers. I may add that it is in an illiterate hand, as the mixture of French and English and the absence of punctuation will show.

I am, Sirs, yours faithfully,

Middle-lane, Hornsey, N., Oct. 23rd, 1889. A. GOLDNEY CHITTY.

"Near at Hand, 23 Sept., 1889.

"MA CHERE MADAME,—If you have not full confidence in your present medico and feel disposed to try the efficacy of prayer send for

"Yours obediently

"MARTIN MICHEL."

QUACKERY IN BRAZIL.

A BRAZILIAN medical journal complains bitterly of the sometimes vexatious restrictions with which the law surrounds the legitimate practitioner, while, on the other hand, the quack goes quite free. Every medical man, on coming to settle in a district, has to present his diplomas to the authorities for inspection, and also to pay fees for a licence to practise; the quack, of course, does nothing of the kind. Again, if a medical man sees an infectious case in the ordinary course of his duty, he is obliged by law to incur some expense and inconvenience for the protection of the public. The quack, on the other hand, if he sees an infectious case, an illegal act in itself, is not in the least troubled by sanitary regulations—indeed, he may sign death certificates and perform many other acts which for him are distinctly illegal without any of the authorities taking the smallest notice.

Aniline.—Lunge's "Coal-tar and Ammonia," 1887, gives a good account of the preparation of crude products from coal-tar. As to such complex compounds as antipyrine, no popular description is possible. Attfield's Chemistry, 13th edition, 1889, describes briefly the most important.

X. Y. Z. might put the questions to his medical adviser.

THE NEW ENTRIES.

To the Editors of THE LANCET.

SIRS,—We shall doubtless before long have the official returns of new entries at the medical schools. Should the numbers show a gain it will be an occasion for congratulation amongst professors and all interested in the numerical prosperity of their schools. A different feeling, however, will be awakened in the breasts of the rank and file of the profession should the returns show an increase upon last year's, for they have everything to lose and nothing to gain by a growth in numbers on the register, sharpening, as it inevitably will, the present almost intolerable keenness of competition.

On the general question of overcrowding in the profession THE LANCET has more than once spoken fearlessly and forcibly, but I am desirous of calling attention to one cause of the evil in question which has not, I think, been hitherto touched upon. I allude to the touting for students by the medical schools through the advertisement columns of the general press. Surely the facilities for advertising are ample enough in the medical journals to aid those who have already made up their minds to enter the profession in selecting the school best suited to them.

If there is any doubt in the minds of our hospital authorities as to the existence of overcrowding in the profession, or of the deplorable results arising therefrom, let them walk through our suburban as well as our thickly populated, more central neighbourhoods, and witness the profusion of so-called dispensaries, with shop fronts emblazoned with gold letters on "a sea" of chocolate, setting forth the wonderful skill of the proprietor and the cheapness of his wares. If this sight does not raise a blush for "the cloth," it is quite certain our fathers would have felt ashamed had such a spectacle greeted their eyes.

I am, Sirs, your obedient servant,

Oct. 16th, 1889. C. W. C.

ALBUMINURIA.

To the Editors of THE LANCET.

SIRS,—The circumstance of Dr. Saundby quoting from a different lecture of Dr. Graves from the one referred to by me renders his remarks on my note of the 8th inst. comparatively irrelevant. For the rest, if ever there was a man less likely to be hampered by the trammels of doctrine—the pitfall of medical men—Dr. Graves was that man. His illustrious pupil, Stokes, said of him: "He was a true physician"—not too common a commodity now-a-days. He revolutionised the practice of medicine in the treatment of fever. He *fed it*, relegating the Sangrado treatment which had hitherto obtained to well-merited oblivion, thus forming the germ, as I think, of conservative medicine. His views on capillary circulation, on the doctrines of inflammation (confirmed by microscopical investigations), on circulation of blood within the cranium (confirmed by Dr. Burrowes' experiments), on the pathology of paralysis (so remarkably in accord with the cerebro-spinal theory), on the pathology of tubercle, on the nature of the acid in the human stomach, &c. &c., make up a roll of medical achievements destined to fill a bright page of medical history, and equalling, I humbly apprehend, anything that has been done by "Kidney Bright."—Yours faithfully,

Oct. 21st, 1889. A PUPIL OF THE LATE DR. GRAVES.

CIRCUMCISION.

To the Editors of THE LANCET.

SIRS,—In Dr. Smith's "Concise Dictionary of the Bible," under the heading "Circumcision," is the following passage:—"The process of restoring a circumcised person to his natural condition by a surgical operation was sometimes undergone. Some of the Jews in the time of Antiochus Epiphanes, wishing to assimilate themselves to the heathen around them, built a gymnasium at Jerusalem, and that they might not be known to be Jews when they appeared naked in the games made themselves uncircumcised (1 Macc., 1, 15)." Will any one of your readers kindly inform me what this surgical operation was?

I am, Sirs, yours truly,

Huntingdon, Oct. 22nd, 1889. LANCELOT NEWTON.

THE CLIMATOLOGICAL AND HYDROLOGICAL CONGRESS IN PARIS.

WE are informed that our correspondent was in error in implying that the United States was not officially represented at the Congress, Dr. A. Lawrence Rotch having, it appears, been delegated by the U.S. Commissioner-General at the Exposition for that purpose.

Dr. R. Rentoul (Liverpool).—Our space will not permit of the insertion this week of our correspondent's letter, which, however, will appear in our next.

GEYSER BATHS.

To the Editors of THE LANCET.

SIRS,—As the publicity now given to the dangers of these baths is due entirely to the evidence which I gave at the inquest on Reginald Chapple, I beg you will allow me to add a few words in further explanation.

The statement made by the coroner, Mr. Wyatt, was that, though this "accident" had occurred, there was a kind of "geyser" which did not require a funnel, and which was perfectly safe to use. I then opposed that opinion on the ground that in a bath-room of small cubic space, like the one in question, no apparatus of such a kind could be safe, owing to the rapid consumption of the oxygen of the apartment, and I do not care what kind of burner it may be provided with, whether Bunsen's or otherwise. I would also venture respectfully to differ from the writer of the annotation in your last issue, in which he says of the funnel (which should in all cases be provided): "The latter should not be carried out of doors, as the wind may blow back the fumes into the bath-room, but should be conveyed into an adjoining corridor or large room." This advice is surely inconsiderate, as in any case it must fill the house with noxious fumes, even when the draught is sufficient to clear the bath-room; and I can readily imagine a house of such a construction that even leaving the bath-room door open whilst the geyser is in action might have a similar result. Would it not be in every way better to recommend clearing the atmosphere of the bath-room from the possible regurgitation of fumes by opening both door and window for half a minute after the geyser burners are extinguished? In the meantime the funnel may be relied on to create its own draught at all times when the gas is fully turned on.

As deaths from the deoxygenation of the air of small rooms are at least twice as numerous in England as those from hydrophobia, I trust you may be able to find room for this warning.

I am, Sirs, your obedient servant,

Upper Norwood, S.E., Oct. 9th, 1889. EDWARD HAUGHTON, M.D.

"TELEGRAM—IMMEDIATE—NO CHARGE FOR DELIVERY."

To the Editors of THE LANCET.

SIRS,—Everybody's name and address in the "Medical Directory" should be followed by his telegraphic address, thus: (T. A. Liston, Surgeon, Ainsdale); or (T. A. Abernethy, Physician, Elter Water.) Such telegraphic address need not be a registered telegraphic address (for which the Post-office requires a guinea a year), but simply an abbreviated address which each man knows by experience is sufficient to ensure the prompt and correct delivery of his telegrams. When we telegraph to our London friends we spend nearly sixpence in name and address before we come to the words of the communication. All *un*-registered telegraphic addresses in London, Dublin, &c., should conclude with the name of the *delivering office*, as the Post-office calls it, and this can be ascertained by inquiry at the nearest post-office to your residence. The editors of the Medical Directory must have information supplied before Nov. 1st, or it will be too late for the Directory for 1890. I am, Sirs, yours truly,

October, 1889. CRAVEN, Surgeon, Kendal.

COMBINARE.

IN our notice last week of the material under this name (which, by the way, was wrongly spelled "combinaire") we inadvertently omitted the address, No. 12, Gray's-inn-road, after the name of the inventor, Mr. Stoward.

DENTITION IN UTERO.

To the Editors of THE LANCET.

SIRS,—As a sequel to the letter of Mr. James Henry Clark, in your issue of Oct. 12th, I beg to say that I was called in to-day to remove two lower incisors from the mouth of an infant aged twenty-two days. They were there at birth, and had become so prominent and loose that the mother was anxious to have them removed. I enclose them with this letter, and may add that it is by no means the first case in my experience. I am, Sirs, yours truly,

Biggleswade, Oct. 14th, 1889. J. B. EMMERSON.

Mr. R. C. Nicholls.—We would refer our correspondent to an article in THE LANCET of Sept. 14th, p. 540. For the other side of this question see our issue of last week, p. 809.

"TREPHINING THE SACRO-ILIAC JOINT IN SACRO-ILIAC DISEASE."

To the Editors of THE LANCET.

SIRS,—In the report of the above case in your last issue, p. 787, are two errors. May I ask you to kindly correct the same, as materially affecting the diagnosis and treatment of the case? The patient could not sit on the *right* tuber ischii, not "left." For "two-inch limb" read two-inch *limit*. I am, Sirs, yours faithfully,

New Cavendish-street, W., Oct. 23rd, 1889. MAYO COLLIER.

ADVANCE IN MICROSCOPIC BACTERIOLOGY.

BY means of an improved microscope made by Seibert of Wetzlar the internal structure of the anthrax bacillus can be made out. This consists of a series of pearl-like corpuscles, which can be plainly seen to undergo division. The magnifying power of the microscope is said to be 2250 diameters.

Mr. W. J. Fraser.—The person extolled in the paragraph of the *London Weekly Telegraph* sent us is not in the Medical Register.

H. E.—Tribune Médicale of Oct. 3rd.

THE EXAMINATION IN SURGERY AT THE ROYAL COLLEGE OF SURGEONS AND THE EXAMINATION HALL.

To the Editors of THE LANCET.

SIRS,—If the Court of Examiners of the above institutions could arrange to take the *viva voce* part of their examination on the same day as the written (Friday), or even on Saturday, the next day, instead of having to wait till Monday and Tuesday respectively of the following week, it would be a great saving of expense and inconvenience to provincial students, who could take their departure immediately on the conclusion of the examination, the same or next day, instead of waiting about the town for nearly a week with no chance of enjoyment, and with no definite result, except that of emptying their pockets and evaporating their greater or less stock of assurance; for who can possess a serene and contented mind under the prospect of facing such an uncertain ordeal as an examination in medical knowledge amounts to, where the gravity and anxiety of the situation are enhanced by its being successfully or otherwise the means of deciding the result of four, six, or even eight years of toil and labour?

I have the honour to remain, Sirs, your most obedient servant,

October, 1889. A CANDIDATE.

PRACTICE IN BUENOS AYRES.

To the Editors of THE LANCET.

SIRS,—Can any of your readers kindly inform me how I should set to work in order to obtain a practice in Buenos Ayres or the immediate vicinity of the town? Any information as to opening, &c., will greatly oblige, Yours faithfully,

Oct. 21st, 1889. L.R.C.P. & S.

THE LATE ALBERT SMITH'S WORKS.

To the Editors of THE LANCET.

SIRS,—Can any of the readers of your valuable journal inform me if it is possible to get a copy of one of Albert Smith's old works—"The London Medical Student"?—I am, Sirs, yours faithfully,

ALFRED CORRIE,

Hull, Oct. 21st, 1889. Staff Surgeon, H.M.S. *Rupert*.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Mayo Collier, London; Mr. Christopher Heath, London; Dr. Bate; Mr. T. Bird; Dr. Horrocks, London; Mr. A. G. Chitty, Hornsey; Dr. Auld, Glasgow; Mr. L. Newton, Huntingdon; Mr. Sweeten; Dr. Hopkirk, London; Mr. A. E. Nevins, London; Dr. Norbury, Plymouth; Dr. J. Young, Stewarton; Mr. A. MacDougall, Richmond; Mr. C. J. Marsh; Dr. T. K. Clarke, Huddersfield; Dr. McKeown, Belfast; Mr. H. H. Taylor, London; Dr. Edmunds, London; Mr. Sumter; Dr. Collier, Oxford; Mr. Greenleaves; Mr. Fraser; Dr. F. H. Alderson, Hammersmith; Mr. Edge, Manchester; Dr. Wallace, Colchester; Dr. Lees, London; Dr. Skerritt, Bristol; Dr. Shuttleworth, Lancaster; Mr. A. Corrie, Hull; Mr. J. E. Blomfield, Sevenoaks; Dr. Stephenson, Hanwell; Dr. H. P. Hawkins, London; Dr. Ormsby, Dublin; Mr. Thorpe, Walthamstow; Dr. Maguire, London; Mr. M. Palmer; Mr. J. E. Thompson, Vienna; Mr. R. Harrison, London; Mr. Friend; Mr. J. P. Bush, Clifton; Mr. Christy, London; Messrs. Willows, Francis, and Butler, London; Dr. Montague, Nottingham; Messrs. Kingsford and Co., London; Dr. Walker, Redcar; Mr. Blake, Dublin; Mr. Musgrave Craven, Kendal; Mr. Yearsley, London; Mr. Sleman; Dr. Fancourt Barnes, London; Dr. O'Neill, Belfast; Dr. R. Main; Messrs. Barker and Sons, London; Mr. Williams, Kingsbridge; Messrs. Essinger and Co., London; Rev. J. Ellis, Bournemouth; Messrs. Clark, Son, and Platt, London; Mr. Lamond, Glasgow; Dr. Charteris, Glasgow; Miss Morrice, Worcester; Mr. Appleton, London; Mr. Sandell, West Kensington; Dr. McLauchlan, Worcestershire; Messrs. Entwistle and Kenyon, Accrington; Messrs. Stern, London; Messrs. McKesson and Robbins, New York; Mr. Brunner, Clapton; Messrs. Geo. Back and Co., London; Mr. Griffin, Bognor; Mr. West, Derby; Messrs. Rankin and Sons, Glasgow; Mr. Bancroft, Amesbury; Mr. W. H. Brown, Eow; Mr. Orr, Huddersfield; Messrs. Spon, London; Dr. Lindley, Stanberry, Ma.; Mr. Smith, Sheffield; Mr. Smitton, Edinburgh; Messrs. Lee and Nightingale, Liverpool; Mr. Williams, Notts; Messrs. Bell and Bradfute, Edinburgh; Mr. Woodbridge, Brentford; Messrs. Newbery and Sons, London; Mr. Woodhead, Huddersfield; Messrs. Burt and Co., London; Mr. Lark, St. Leonards-on-Sea; Mr. Hopkins, King's Lynn; M. Ramlot, Bruxelles; Mr. Buckle, Salop; Messrs. Wilcox and Co., London; Mr. Jubb, Huddersfield; Messrs. Carswell and Co., Piccadilly; Mr. Brown, Westgate-on-Sea; Messrs. Harrison and

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LETTERS, *each with enclosure*, are also acknowledged from—Mr. London, Wilts; Mr. Hindle, Loughboro'; Mr. Forbes, Jarrow; Messrs. Reed and Cook, Bridgwater; Mr. Tully, Hastings; Mr. Thompson, Great Ousebarn; Dr. Harrison, Norfolk; Mr. Ungent; Messrs. Blondeau et Cie., London; Mr. Ross, Liverpool; Dr. Adams; Dr. Beale, Upton Manor; Mr. Penland, Woolwich; Dr. Adamson; Mr. Nicholls, Bury St. Edmunds; Mr. Macdonald, Wigan; Dr. Crothers; Messrs. Pain and Baker, London; Mr. Harries, Llanelly; Messrs. Macmillan and Co., London; Mr. Branthwaite, Twickenham; Mr. Carter, Putney Hill; Mr. Wilkinson, Dudley; Mr. Smart, Cambridge; Mr. Williams, Aberystwith; Dr. Richardson, London; Mr. Coombs, Bridgwater; Mr. Reid, Canterbury; Dr. Davies, Wrexham; Mr. Martin, Cornwall; Mr. Betts, Chester; Mr. Woolley, Hove; Mr. Tyte, Minchinhampton; Mr. Kempton, Marylebone; M. Lorette, Paris; Mr. T. A. White, Territet Vaud; Mr. Lewis, Birmingham; Dr. Muirhead, Edinburgh; Mr. Barlow, Birmingham; Mr. Jeremy, Dublin; Mr. Bayley, Hastings; Dr. Joyce, Ireland; Mr. Masters, Sussex; Dr. Emmerson, Biggleswade; Mr. Oldham, Liverpool; Mr. Brittain, Ventnor, Isle of Wight; Dr. Jessett, London; Miss Hunt; Messrs. Weatherall and Co., London; Mr. Peed, Whittlesey; Mrs. Theobald, Leicester; Mr. Jackson, Sheffield; Mr. Gibbons, Liverpool; Mr. Macdonnell, Ayrshire; Dr. Gibson, Norwich; Mr. Elliott, Carlisle; Dr. Doyle, Sleigh; Mr. Pilkington, Chesterfield; Dr. Skrimshire, Monmouth; Rev. Ellis, Boscombe; Dr. Alexander, Hanwell; Mr. Johnson, East Ham; Mr. Coote, Ipswich; Mr. Warren, Kent; Mr. Thorne, Market Drayton; Dr. Harding, Whittlesey; Dr. Hine; Mr. Thomas, Tunbridge Wells; Mr. Williams, Pontypridd; Dr. Murrell, London; Mr. Gray, Bristol; Mr. Fidler, Totnes; Mr. Johnson, Basingstoke; Major Pead, Dulwich; Mr. Harrison, Norfolk; Miss Meason, Hants; Miss West, Manchester; Mr. Cusack, Edinburgh; Mr. Heywood, Manchester; Dr. Cavenagh, Hull; Mrs. Mullard, Reading; Alpha, Durham; Sigma; M.D., London; L. M. H., Llanelly; M.D., Kettering; Secretary, City of London Hospital for Diseases of the Chest; Secretary, Bristol Eye Hospital; P., London; Alpha, London; Secretary, Royal Victoria Hospital, Bournemouth; Caleb, London; H., Sheffield; Bradford Infirmary; Medicus, Honiton; Assistant, Manchester; Royal Albert Hospital, Devonport; Vacancy, Birmingham; Secretary, Farringdon General Dispensary; Beta, Brighton; Medicus, Bournemouth; The Hermitage, Yorks; Medicus, Cheshire; G., Yorks; Secretary, County Asylum, Shrewsbury; Humerus, London; E. S., London; Experientia, London; Veritas, London; Delta, Southport; C. B., West Devon; M.D., London; J. P., London; M., London; M.D., L.R.C.S.E., London.

Manchester Examiner, Surrey Advertiser, Indian Daily News (Calcutta), Birmingham Daily Gazette, Hertfordshire Mercury, Kensington and Hammersmith Reporter, Weekly Free Press and Aberdeen Herald, Lancaster Guardian, Mining Journal, Malton Gazette, Evening News (Portsmouth), Reading Mercury, North-Eastern Daily Gazette (Middlesborough), Jackson's Oxford Journal, Evening Citizen (Glasgow), Open Court, &c., have been received.

Medical Diary for the ensuing Week.

Monday, October 28.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, VICTORIA-PARK, E.—4.30 P.M. Introductory Address by Sir Risdon Bennett, M.D., F.R.S.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Ord: Some interesting points in connexion with Glycosuria.—Mr. Marmaduke Shield: Cerebral Abscess due to Ear Disease, evacuated by the Trephine.

Tuesday, October 29.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.

Wednesday, October 30.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, October 31.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, November 1.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY (Board-room, West London Hospital).—8 P.M. Pathological Specimens:—Mr. R. F. Benham: An Umbilical Cord Knotted Ante Partum.—Mr. Keetley: Specimen showing Three Incomplete (Richter's) Strangulated Hernie in the same subject (a man aged seventy-six).—Mr. R. Lake: A Hypertrophied Tonsil. Cases:—Dr. Abraham: An unusual case of Psoriasis.—Mr. Keetley: A Girl aged fifteen with a Congenital Lateral Curvature of the Spine and a Double or Bifid Row of Spinous Processes in the Mid-dorsal Region. Microscopical Specimens:—A series illustrative of Phthisical Conditions of the Lungs, lent by Mr. Arthur Townsend of Birmingham.—Dr. Abraham: Sections of Psoriasis. Papers:—Dr. Thudichum: A New Mode of Operating on Nasopharyngeal Tumours (so-called relapsing).—Dr. Reginald Dudfield: The Sanitary Acts of last Session, especially the Infectious Diseases (Notification) Act, 1889.

Saturday, November 2.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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